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RZ2.R05703.01.ID.022

September 14, 2000

Mr. Thomas Manning
Work Assignment Manager
U.S. EPA Region 5, DW-8J
77 W. Jackson Boulevard
Chicago, IL 60604

Reference: EPA Contract No. 68-W-99-017; EPA Work Assignment No. R05703: Multi-Site Field Oversight Support; Johnson Controls, Inc.; Fowlerville, MI; EPA ID No. MID099124299; Field Oversight Report for Phase III RFI Field Activities; Task 02 Deliverable

Dear Mr. Manning:

Please find enclosed TechLaw's Field Oversight Report for the Phase III RCRA Facility Investigation (RFI) activities conducted at the Johnson Controls, Inc. facility in Fowlerville, MI.

TechLaw personnel accompanied Mr. Juan Thomas of the U.S. EPA to tour the site, view Geoprobe activities as part of the trichloroethene (TCE) source investigation, review sampling results collected to date and observe sediment sampling in the Red Cedar River.

TechLaw personnel conducted field oversight on July 11, 2000 to observe TCE source identification sampling. This trip complemented an earlier visit on June 21 and June 22, 2000, as reported in the Field Oversight Report delivered to U.S. EPA on June 29, 2000. As discussed in prior correspondence, the facility did not conduct the entire Phase III RFI at that time (i.e., sediment sampling of the Red Cedar River was not completed). Therefore, TechLaw returned to the site on September 6 and 7, 2000, to observe sediment sampling. Observations from these oversight visits are documented in the attached report.

Please feel free to contact either myself or Mr. Terry Uecker at (312) 345-8974 if you have any questions.

Sincerely,

John Koehnen

John Koehnen
Regional Manager

cc: F. Norling, EPA Region 5 Project Officer (w/out attachment)
J. Thomas, EPA Region 5
T. Uecker
W. Jordan/Central Files
Chicago Central Files

JOHNSON CONTROLS, INC.
FOWLERVILLE, MI
EPA ID NO. MID099124299

FIELD OVERSIGHT REPORT
FOR PHASE III RFI FIELD ACTIVITIES

Submitted to:

Mr. Thomas Manning
U.S. Environmental Protection Agency
Region 5 - DW-8J
77 West Jackson Boulevard
Chicago, Illinois 60604

Submitted by:

TechLaw, Inc.
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Chicago, Illinois 60606

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Contract No.	68-W-99-017
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September 14, 2000

JOHNSON CONTROLS, INC.
FOWLERVILLE, MI
EPA ID NO. MID099124299

FIELD OVERSIGHT REPORT FOR PHASE III RFI FIELD ACTIVITIES

TABLE OF CONTENTS

JOHNSON CONTROLS, INC.
FOWLERVILLE, MI
EPA ID NO. MID099124299

FIELD OVERSIGHT REPORT FOR PHASE III RFI FIELD ACTIVITIES

1.0 Introduction

At the request of Mr. Thomas Manning, the United States Environmental Protection Agency (U.S. EPA) Work Assignment Manager (EWAM) and Mr. Juan Thomas, the U.S. EPA Technical Advisor (TA), TechLaw, Inc. (TechLaw) performed oversight of the Phase III Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)-related field activities at Johnson Controls, formerly known as the Stanley Tools Facility (Facility) in Fowlerville, MI. The oversight was performed under the RCRA Enforcement Permitting and Assistance Contract No. 68-W-99-017, EPA Work Assignment No. R05703, Project 10, Task 02.

This field oversight was conducted July 11, and September 6 and 7, 2000 by Mr. William Hopkins of TechLaw. The field oversight complemented an earlier TechLaw site visit on June 20 and 21, 2000. Oversight activities included observation of Geoprobe soil boring and groundwater sampling performed by URS. This work corresponds to trichloroethene (TCE) Source Identification (Objective 2) of the Revised Phase III RFI Work Plan, Former Stanley Tools Facility, Fowlerville, MI dated December 3, 1999 (Work Plan). TechLaw was also present during sediment sampling of the Red Cedar River, corresponding to Objective 3 of the Work Plan. Figures depicting sample locations and designations for the TCE source identification and sediment sampling of the Red Cedar River are included in Appendix A of this report. Appendix B of this report contains a photograph log documenting field activities and the field log is included as Appendix C.

2.0 Summary of Field Activities

TechLaw personnel arrived at the Facility on July 11, 2000. Mr. Hopkins of TechLaw met with Mr. Dennis Connair of URS and Mr. Juan Thomas of the U.S. EPA. Also present were Ms. Stacey Lane and Mr. Chris Spielman of URS and Mr. Dave Castle of Belasco Drilling Services, Inc. After a health and safety briefing, TechLaw began observation of the TCE source identification borings and associated soil and groundwater sampling. During the July 11, 2000 visit, general site reconnaissance was also conducted, including an assessment of water levels on the Red Cedar River.

TechLaw personnel were also present on September 6 and 7, 2000, to observe sediment sampling in the Red Cedar River. Personnel present for the September visit included Mr. Thomas of the U.S. EPA and Mr. Connair, Mr. Spielman and Mr. William Eckhoff of URS. Observations from these visits are documented below.

2.1 Oversight of Geoprobe Sampling

As discussed above, this oversight report complements previous oversight conducted on June 20 and 21, 2000. An Oversight Report for the June visit was provided to Mr. Juan Thomas of the U.S. EPA on June 29, 2000. The June 29, 2000 report contains extensive detail on the type of equipment and procedures used to conduct the TCE Source Identification sampling. Similar procedures were employed during Geoprobe activities in July. Therefore, to avoid redundancy, this report will focus on new information and observations. Please reference the June 29, 2000 oversight report for additional details on sampling procedures.

TechLaw was present during eight soil borings on July 11, 2000. These borings were located around Area of Concern (AOC) 1. According to Mr. Connair, AOC 1 is located within the former footprint of the manufacturing facility. The Work Plan describes AOC 1 as a potential site of a degreasing operation.

During the oversight period, two sampling locations had "hits" on the photoionization detector (PID). These were located at the TCE-15 and TCE-20 locations (see Appendix A for locations). At TCE-15, a PID reading of 57 parts per million (ppm) was registered at approximately seven feet below ground surface (bgs). At TCE-20, 151 ppm was registered at four feet BGS and 186 PPM was registered at eight feet bgs. At TCE-24, a black sandy layer was observed from seven to nine feet bgs. However, this material did not register on the PID meter. Mr. Connair speculated that the material may be degraded kerosene. According to URS, similar material was encountered during soil borings in the SWMU K area. TechLaw was not present for the SWMU K borings.

Groundwater samples were also collected at each of the boring locations. Samples were collected using similar methodology as discussed in the June 29, 2000 oversight report.

During the September 6 and 7, 2000 visit, Mr. Connair discussed analytical results received to date. The preliminary results from the soil borings and groundwater samples indicate intermittent "hits" of TCE and kerosene. Without discussing specific sample locations, there appeared to be TCE detected near SWMU L and AOC 1. Kerosene was reportedly detected to the west of AOC 1 and in the vicinity of SWMU K.

2.2 Site Reconnaissance

During the July 11, 2000 site visit, TechLaw accompanied Mr. Thomas and Mr. Connair on a general site tour. Mr. Connair discussed various SWMUs and monitoring well locations located across the site. Specific observations from the site tour are discussed below.

Mr. Connair described conditions at the South Drainage Ditch. This ditch constitutes the southern boundary of the Facility and is located adjacent to railroad tracks. The South Drainage Ditch carries surface water runoff due west to the Red Cedar River. The ditch appeared to contain stressed brown vegetation. Mr. Connair suggested that the stressed nature of the vegetation could be potentially due to pest control activities conducted by the local municipalities. Mr. Connair provided anecdotal information that the local municipalities periodically applied pesticides in areas of standing water.

Mr. Connair noted that monitoring wells (MW) in the vicinity of SWMU C (Former Settling Pond) were found to contain free product during groundwater sampling conducted as part of the Phase III RFI. The free product was described as a light non-aqueous phase liquid (LNAPL). During the site tour, Mr. Connair removed a bailer from MW-C3. The bailer contained approximately 12 inches of LNAPL. Mr. Connair suggested that the contents may be kerosene. During the July 11, 2000 visit, a sample of the free product was collected as discussed in Section 2.3 below.

Mr. Connair discussed conditions in the Red Cedar River. The Screening Level Evaluation of the Red Cedar River sediments (Objective 3) was delayed due to elevated water levels. Mr. Connair explained that the water levels created an unsafe environment to wade through and made it difficult to visually determine areas of sediment deposition. For this reason, Mr. Connair requested that this sampling be delayed until water levels receded. TechLaw suggested that URS provide a letter to the U.S. EPA detailing their rationale for the delay and provide a time line for when sampling would occur. URS subsequently issued a letter, dated July 24, 2000, which documented this request. The letter noted that sampling would be conducted under more favorable conditions no later than September 11, 2000. Sediment sampling was conducted September 6, 7 and 8, 2000 and is discussed in Section 2.4 below.

2.3 Free Product Sampling in SWMU C Wells

As discussed above, LNAPL was encountered in MW-C3 during groundwater sampling. SWMU C is the site of a Former Settling Pond. During the July 11, 2000 site visit, free product was evident in a bailer removed from the well. Although not in the Work Plan, URS chose to collect a sample of the product for characterization purposes.

Mr. Connair removed the permanent bailer and used a disposable Teflon bailer attached to a string. The bailer was repeatedly lowered into the well to collect the sample. As the free product was a LNAPL, the material rose to the top of the bailer as it was removed from the well. Water at the bottom of the bailer was drained into a bucket and disposed as investigation derived waste (IDW). Once the water was removed, the free product was drained into a collection jar.

Mr. Connair noted that during groundwater sampling, free product was also encountered at the adjacent MW-C1. Using a new bailer, URS attempted to collect a sample. No free product was encountered at that time. Mr. Connair noted that it is possible that the free product was removed during well purging and has not regenerated.

2.4 Red Cedar River Sediment Sampling

TechLaw was present on September 6 and 7, 2000, to view activities associated with Objective 3 of the Work Plan, which consisted of a Screening Level Evaluation of the Red Cedar River (River) sediments. Sampling was done in accordance with the Work Plan, including revisions documented in the March 30 and May 8, 2000 letters from URS to the U.S. EPA.

Sampling generally consisted of a walking survey of the River to identify targeted areas of concern. Once areas were identified, the River bottom was logged. This was done my stringing a measuring tape across the width of the River and using a measuring stick to periodically determine the depth of the water and depth of the sediments. These readings were graphed in the URS field log.

Samples were then collected using a hand auger. In areas where deeper sediments existed, both a shallow and deep sample were collected. This was accomplished by inserting a short length of polyvinyl chloride (PVC) pipe into the sediments with subsequent collection of two samples (approximately 1 to 6 inches and 7 to 14 inches). The March 30, 2000 URS letter to U.S. EPA noted that deeper samples would be collected in areas where sediments exceeded 24 inches. At the request of the U.S. EPA, shallow and deep samples were collected at locations with sediment depths less than 24 inches.

In addition to the sampling locations specified in the Work Plan, an additional sample was taken of river sediments. During the walking survey of the River on September 6, 2000, a 55-gallon steel drum was found partially buried in the River bottom. Based on visual observations, there appeared to be no environmental concerns with the drum. The drum had an opened end and was partially filled with sediment. This new sample was designated SE-RC-22A.

As an aside, sample designations are as follows: SO = soil (bank), SE = Sediment, RC = Red Cedar River, and SD = South Drainage Ditch. For example, SE/RC-22 is a bottom sediment sample collected in the Red Cedar River at sequential sampling location number 22. If a shallow

and deep sample were taken at that point, they would be designated SE/RC-22/1 (shallow) and SE/RC-22/2 (deep). Conversely, SO/RC-22 is a river bank soil sample co-located with the sediment sample.

River bank sampling was included as a revision to the Work Plan as documented in a March 30, 2000 letter from URS to U.S. EPA. The revision called for four bank samples co-located with River and South Ditch sediment sampling locations. During the walking survey of the River, Mr. Thomas and Mr. Connair identified an additional location for bank sampling. Along the river bank near SWMU J (waste water treatment plan), Mr. Connair and Mr. Thomas identified a potential seep of an oily hydrocarbon substance. A hydrocarbon odor and oily sheen was observed at this location at water level of the river bank. A bank sample was subsequently collected at this location using a stainless steel spoon. This sample was designated SO/RC-22A.

During sampling on September 7, 2000, URS identified an additional seep along the river bank in the vicinity of SWMU C. A concrete or clay pipe outfall with a diameter of approximately six to eight inches was discovered below the surface of the water. Exact identification of the pipe was not possible due to heavy sediment cover. An oily sheen was observed in the vicinity of the pipe that increased when the pipe was tapped with a metal rod. It could not be determined if the oily substance was coming from within the pipe or if the pipe was providing a preferential pathway to the River. Due to the discovery of the pipe, the SO and SE/RC-23 sampling locations, which were originally located approximately 20 feet upstream, were adjusted to sample immediately downstream of the unknown outfall.

3.0 Conclusions and Recommendations

TechLaw observed one day of soil borings (July 11) and two days of sediment collection (September 6 and 7) performed by URS. Generally, the work plan was adequately followed and work activities conducted appeared to match Objectives 2 and 3 of the Work Plan. Minor field adjustments were observed, such as moving samples to more appropriate locations (i.e. downgradient of a pipe outfall) or adding additional samples (i.e. new sample downstream from a buried drum).

Objective 2 of the RFI consisted of multiple soil borings to determine the nature and extent of TCE contamination at the facility. URS noted that preliminary results from the soil and groundwater samples indicate intermittent concentrations of TCE and kerosene. The intermittent nature of these "hits" is suggestive of multiple releases on the site. Therefore, careful evaluation of the RFI Report should be conducted to identify potential source areas and the extent of potential contamination in adjacent areas.

Although preliminary in nature, there also appears to be a connection between constituents within the facility with those appearing in the Red Cedar River. For example, the observance of free product LNAPL within SWMU C and the appearance of an oily substance seep immediately adjacent and downgradient within the Red Cedar River, suggests a potential

connection. A similar seep was also observed within the Red Cedar River adjacent to SWMUs E and J. Based on these factors, analytical results from the River soil and sediment samples should be rigorously compared with those from the adjacent SWMUs to determine if any connection can be made. In addition, careful consideration should be given to the characterization of the free product collected from SWMU C during the July 11 visit to determine if there is any similarity of the material to that apparently seeping into the Red Cedar River.

APPENDIX A

Diagram of TCE Source Identification Boring Locations and Sample Designations

APPENDIX B

Photograph Log

Photograph No.: R1-P1
Date: 7/11/00

Time: 1105
Direction: W

Description: View of TCE-20 Geoprobe soil boring. This boring exhibited the highest field PID of the day (186 ppm).

Photograph No.: R1-P2
Date: 07/11/00

Time: 1105
Direction: W

Description: View of TCE-20 sampling location. Note depressed area and lack of vegetation.

Photograph No.: R1-P3
Date: 07/11/00

Time: 1135
Direction: S

Description: View of south drainage ditch located between southern fence line and railroad tracks.

Photograph No.: R1-P4
Date: 07/11/00

Time: 1140
Direction: SE

Description: Additional view of South Drainage Ditch. Note distressed vegetation within channel.

Photograph No.: R1-P5
Date: 07/11/00

Time: 1140
Direction: NW

Description: View of SWMUs B and C monitoring well locations. Recent groundwater sampling by URS indicated SWMU C wells contained free product.

Photograph No.: R1-P6
Date: 07/11/00

Time: 1145
Direction: W

Description: View of the Red Cedar River (behind fence) near outfall of South Drainage Ditch.

Photograph No.: R1-P7
Date: 07/11/00

Time: 1150
Direction: N

Description: View through fence line of Closed RCRA surface impoundments (settling ponds).

Photograph No.: R1-P8
Date: 07/11/00

Time: 1155
Direction: W

Description: View of Mr. Dennis Connair of URS showing elevated and murky conditions of the Red Cedar River.

Photograph No.: R1-P9
Date: 07/11/00

Time: 1200
Direction: N

Description: View of discharge pipe near Red Cedar River.

Photograph No.: R1-P10
Date: 07/11/00

Time: 1105
Direction: S

Description: View of the northern bank of the Red Cedar River.

Photograph No.: R1-P11
Date: 07/11/00

Time: 1225
Direction: NW

Description: View of Area of Untreated Sludge Disposal (Area F).

Photograph No.: R1-P12
Date: 07/11/00

Time: 1230
Direction: W

Description: View of southern fence line of Area F. Red Cedar river to left (south) of fence.

Photograph No.: R1-P13
Date: 07/11/00

Time: 1230
Direction: S

Description: View of MW-F2 with Red Cedar River in background.

Photograph No.: R1-P14
Date: 07/11/00

Time: 1230
Direction: W

Description: Additional view of southern fence line of Area F near MW-F1. Red Cedar River to left (south) of fence.

Photograph No.: R1-P15
Date: 07/11/00

Time: 1235
Direction: N

Description: View of standing water in Area F.

Photograph No.: R1-P16
Date: 07/11/00

Time: 1435
Direction: S

Description: View of soil boring at TCE-17 location.

Photograph No.: R1-P17 Time: 1704
Date: 07/11/00 Direction: N

Description: Collection of free product from MW-C3. Product was less dense than water (LNAPL). Mr. Connair suggested that the product may be kerosene.

Photograph No.: R1-P18
Date: 07/11/00

Time: 1710
Direction: E

Description: Continued collection of free product from MW-C3. Note MW-C1 and MW-C2 in background.

Photograph No.: R1-P19
Date: 07/11/00

Time: 1715
Direction: E

Description: Continued collection of free product from MW-C3. Product was collected in glass sample jar and shipped to laboratory for characterization.

Photograph No.: R1-P20
Date: 07/11/00

Time: 1725
Direction: E

Description: View of groundwater from MW-C1. No free product observed in well at time of visit. Mr. Connair noted that free product was visible in this well during the most recent groundwater sampling.

Photograph No.: R1-P21
Date: 07/11/00

Time: 1810
Direction: E

Description: View of groundwater sample collection at TCE-17.

Photograph No.: R2-P1
Date: 09/06/00

Time: 1430
Direction: W

Description: View of Mr. Dennis Connair conducting walking survey of the Red Cedar River. Mr. Connair is marking the location of a buried drum (not readily visible) for later sampling.

Photograph No.: R2-P2 Time: 1505
Date: 09/06/00 Direction: S

Description: View of oily seep near SWMU J. Note sheen on surface of water.

Photograph No.: R2-P3
Date: 09/06/00

Time: 1605
Direction: N

Description: View of URS field personnel logging the depth of River sediment and water levels.

Photograph No.: R2-P4
Date: 09/06/00

Time: 1645
Direction: N

Description: View of URS personnel collecting river sediment sample at location SE/RC-20.

Photograph No.: R2-P5
Date: 09/07/00

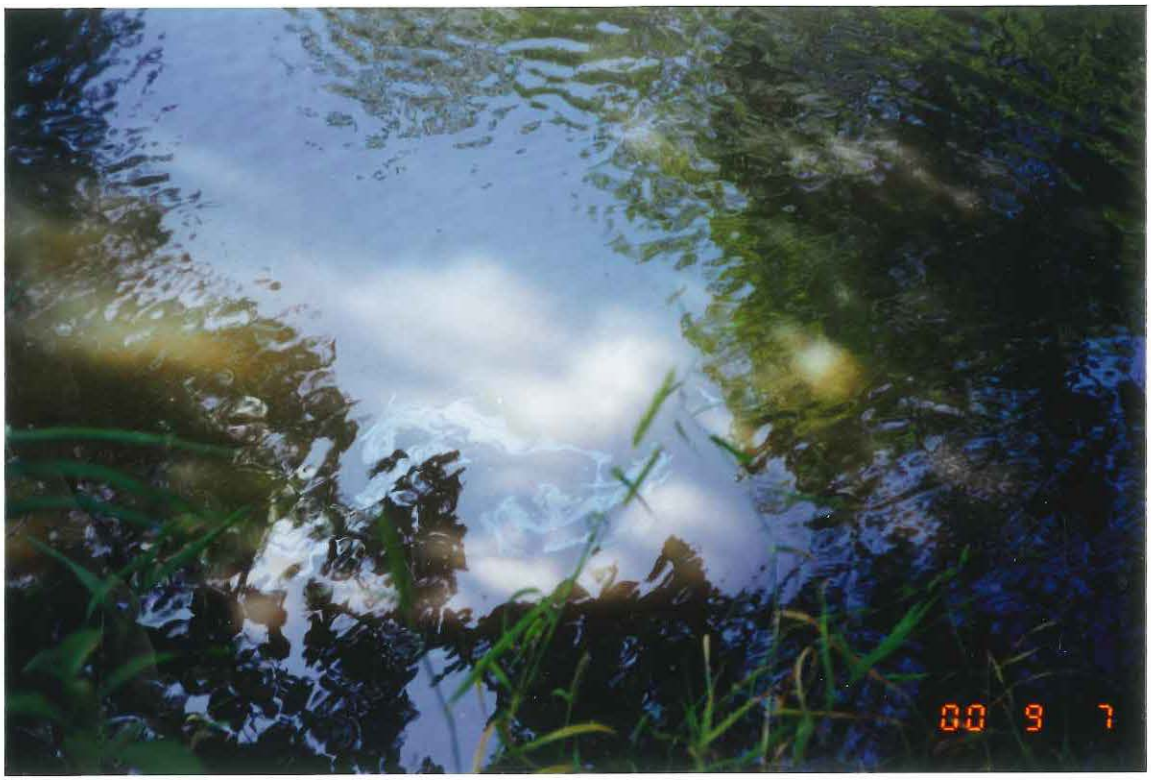
Time: 0940
Direction: S

Description: View of URS personnel collecting river bank sample SO/RC-22A in vicinity of SWMU J. A seep of an unknown oily substance is visible at this location.

Photograph No.: R2-P6
Date: 09/07/00

Time: 1045
Direction: W

Description: View of URS personnel collecting bottom sediment sample downgradient of buried drum. Note drum and yellow marker flag faintly visible to left of picture.



Photograph No.: R2-P7 Time: 1230
Date: 09/07/00 Direction: S

Description: View of oily sheen visible downstream of an unknown pipe outfall. This location is downgradient of SWMU C.

Photograph No.: R2-P8
Date: 09/07/00

Time: 1245
Direction: N

Description: View of sediment sample collection downgradient of oily seep at unknown pipe outfall. Sample designation is SE/RC-23.

APPENDIX C

Field Log

"Outdoor writing products for outdoor writing people"

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7/11

Same Crew 0800

+ Dennis Connor

TCE-14 20' No PIDs

2

17-19 Wet Sand - 19+ clay

TCE-15

0-4

6' - Wet Sand

7' PID 57-59 PPM

Soil Sample SO TCE-15 - 7

Groundwater GW TCE-15 =6

Conversation w/ DC

Over Results -

TCE 16

0-8 - Pretty good clay - No PIDs

8-12 10.5 PID 11'

12-16- No PID

16-20 No PID

All photos (-1) on Photolog -

1st Picture did not take

A&S = 1000

Site Walk W/DC & J Thomas

Ennis onnw/

DC Briefed JT on geology.

Diff BW/SP & MW groundwater accuracy, elevations =>

Walked through Conceptual Models

TCE-20 0-4 4' 151 ppm
1027 4-8 5' 4-8 clay
8-12 PIDs 186 ppm

No water, High PID

P1-E 11:05 Borehole - Did not trace out

SO TCE - 3-4 (4-5)
SO TCE - 8-8½

GW TCE 11

Rz 1105 W - Boring TCE 20
32 - Cinema Smt.

1130 Site Walk w

P4 S - South drainage ditch
1130 Distressed Vegetation
Maybe Mosquito

PSSE - SD Ditch
1135

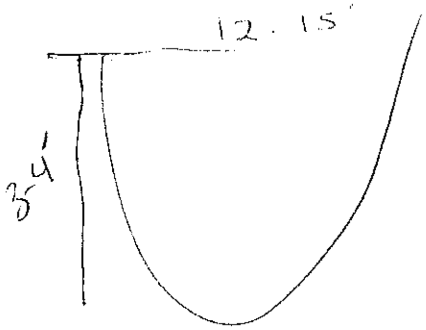
P6 - NW 1140 - B & C SW on V
DC 8 wells had product Bar B
wells were clean

C1 - LNAPL - Free Product -
Smell

1145
P7 W - Red Cedar Near
South drainage ditch

1150
P8 W RCRA Surface Impoundments
DC said there was kerosene

Stream Bed



P9 - W Red Cedar River 1155

DC Says he can get Sediment Samples - But will not know, B/c of poor Visibility.

P10 discharge Pipes & Red Cedar River
North 1200

P11 Banks of the River 1205
South

12:20 BH & Recommend letter report w/ Justification

P12 F - NW 1225 -

B13 W - MW FS-C1

P14 S - F2.5 -

P15 W F1 -
hard to Locate - Scaffold on F1

1235
P16 N- Waters in F1 Talking
Picture North from F1

Lunch

TCE 24- 0-12 Minimal PID's
1-9 Black layer - Sandy
Water Sample at 9'

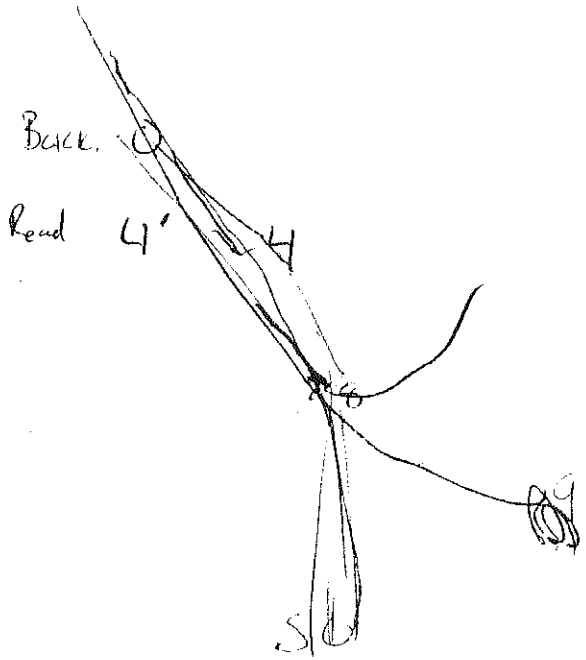
DC Speculated it Might be
degraded Kerosene =?
No odor, no PID - Take water
Sample =?

TCE 17 0-4 Nada=?
4-8 Clean
8-12 Clean
12-16 Wet sandy / Sandy clay
clay

1435
P17 South
Drilling TCE-17, Bracketing

TCE 21 1515
0-4 - no PID - clay
4-8 no Pid - Cl
8-12 Wet Sand - / Dark Sand
at 12 hit clay

PID Recalibrate



C-3-
Free Product - + Sediment at bottom?
S1 - Concerns - West

TCE 19 - 1630

0-12 no hits toxic Sample In 6-6.5

12-16

P18 N
19 E
20 E
Free product 1704 at MW C3 C-3

21 E C1 - No free product

P22 - E 1800 - View of groundwater Sample collection

7/6/00 – Arrive on site 1130

Talk w/ site con[illegible] [illegible] on to south Ditch

→ Dennis Connor
Bill Eckhoff
Chris Spielman

– Juan Thomas

Went on site walk to ID sample location – Found Drum – 55 gals – open end – filled w/ muck

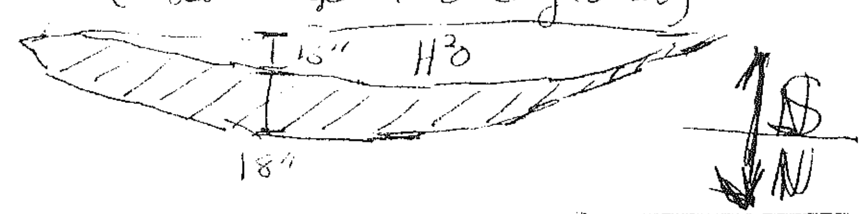
DC –
Quiet vs cutback – Scoured
↗ Less material on [illegible] side

12–18"   1–2"

Plotted out, 2 location
One at Drum (Downst[illegible])
W – P1 – 1530 – Location 2 Drum
One B/W outfall & Drum –

S – P2 – 1605 – Bank Sample
Near outfall, gate
Oil Sheen –

N P3 – 1605 – Tape & Measurements
w/ Stream Bed near Grand River Rd
(Road Bridge in Background)



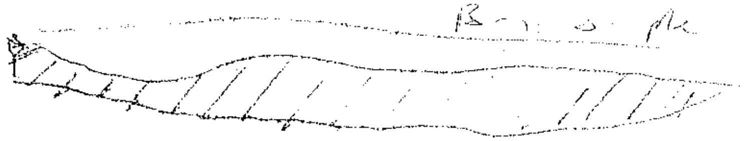
Bridge – Grand River

Collect Sample – Middle – Left
Looking South (East Side)

P4 – N – 1645 –
SE-RC-20 –
Sediment Redcedar 20 –

Silty-Sand –

~~P8~~ –
SE-RC-21 → – Took sediment [illegible] B[illegible] sample



Sample taken by advancing section of PVC into sediment & then using hand Auger for [illegible] [illegible] 8" in down

To Do –
1. Copy Sample designations
2. Recon Area 6

9/7/00
A.O. [illegible] U/S Area 0820

H&S Brief – Same [illegible] as yesterday [illegible]

P5 – Soak – collecting sediment [illegible]
0140 [illegible] [illegible]ep
SO-RC-22A [illegible] Sample

– D RC-22-N/F Buried drum
A/2[illegible] [illegible]

Width 22½' –

– [illegible] Sample → – More [illegible]
P6 – W[illegible] & Drum to the left
1045

Took Deep & Shallow –
Decon equipment & Move to [illegible] [illegible]

Found - Pipe
1230 =7
P7-2 - 1200 Piped sheen bowl
8 -
6 0" - Possibly Clay localized,
Tape oil sheen Come OUT

Adjourned 20 & SC 23 samples to
[illegible] downstream at [illegible]
[illegible] SWMU C

P8 (N) Advancing Soil Boring - Had
[illegible] SC-23-

J.T. discussed SW Samples
I noted would have to do a
full Analysis if you did it

11-6 7" - 1.7-12
2 Dup

Plus a Bone Sample Just [illegible]
Outfall 7

Metcalf & Eddy
An Air & Water Technologies Company

March 9, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
February 15-16 & 22-23, 1994

Dear Mr. Valentino:

Metcalf & Eddy, Inc. (M&E) performed the field oversight at the former Stanley Tools facility in Fowlerville, MI on February 15 & 16 and 22 & 23, 1994. The field oversight was performed by Andrew Campbell and Todd Aebie of M&E, respectively. A copy of the field notes taken during the two oversight periods is included with this letter.

The Phase II work was performed by Dames and Moore (D&M) personnel during this part of the investigation. During the week of 2/15-16/94, D&M conducted slug recovery tests of the newly installed monitoring wells. During the week of 2/22-23/94, D&M conducted groundwater sampling of the Phase II wells. According to Bill Echoff of D&M, groundwater sampling was conducted on the existing Phase I wells at the site on February 17-21, 1994. A daily accounting of the personnel present onsite is listed in the field notes.

The main activity which was performed during the week of 2/15-16/94 was the slug recovery tests on the Phase II RFI wells. Since some of the wells would go dry, it was decided to conduct the slug tests by bailing out a known volume of water then measure the groundwater recovery. This option met with limited success. Some wells (MW-L1; for example) had a very quick recovery and could not be bailed down quickly enough to observe the recovery. Other wells (MW-B4; for example) were bailed dry and good recovery results could be obtained. Since some of the wells had a very quick recovery and could not be bailed down easily, a different slug test method should be attempted. Dames & Moore should try to use the compressed gas method as outlined in the Phase II Work Plan to achieve better recovery data on those wells.

During the week of February 22-23, 1994 the main emphasis of the field work was the collection of the Phase II groundwater samples. According to Bill Echoff of D&M, the groundwater sampling event began prior to the 22nd of February by the sampling of the existing Phase I monitoring wells onsite. The Phase II groundwater sampling began on February 22nd, a minimum of two weeks after the Phase II wells were developed. The procedure followed for the groundwater sampling is described below.

The monitoring well was opened and an HNu was used to check for volatile vapors. Next the depth to groundwater was obtained to determine the volume of purge water to be bailed out. All purge water was hand bailed and containerized. After a minimum of three (3) well volumes had been removed, the field parameters (temperature, conductivity, pH) were measured. If a well went dry during purging, the well would be allowed to recover. If the well recovered

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
614-890-5501 FAX 614-890-7421

quickly, the remaining purge volumes would be removed. If the well recovered slowly, a groundwater sample would be obtained when sufficient water was present. When the field parameters had stabilized, or the volume of groundwater removed exceeded five (5) well volumes, the groundwater sampling would begin.

The sampling order and sample bottles required for each of the Phase II wells are:

1. Volatiles--9/40ml VOA Bottles
2. Semi-Volatiles--2/1liter Amber Jars
3. Pest/PCB--2/1liter Amber Jars
4. Herbs--2/1liter Amber Jars
5. Cyanide--1/500ml Plastic Bottle
6. Sulfide--1/500ml Plastic Bottle
7. Dissolved Metals--1/1000ml Plastic Bottles

The appropriate samples were preserved and the sample for dissolved metals was filtered before preserving. The samples were packed in coolers on ice and the chain-of-custody forms were filled out. The samples were sent to Enesco Laboratory.

While Metcalf & Eddy personnel were onsite conducting oversight, all observed activities which were completed conformed to the project work plan.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

Metcalf & Eddy, Inc.

Todd J. Aebie

Todd J. Aebie

Enclosure

cc:
File
C. Bowers

~~Plann~~ TJA

Daily Activities Report

1) Field Blank collected
2) Finish Grid Borings on site Near Unit G
3) Well Development
4) Sludge Borings

[signature] 3/3/94

2/15/94

1230 ARRIVAL - Sunny and cold
Temp high 30's - very windy

- Bill Eckhoff
- Christine Oehl
- A. Campbell - NiK

(Bill Eckhoff and Christine Oehl bracketed: D&M)

D/M working on slug test of MW-L-1
- using bailer - the plan is to use bailer to remove a quantity of water or bail well dry if possible and then

[signature] 2/15/94

(114) 2/15/94

Mon. for recovery rate

1300 approx. 10 gals have been removed - will attempt to record recovery rate with slope water level meter and stop watch

- obviously the well recovers too rapidly to accurately monitor recovery rate - D/M to call office for guidance -

A. Campbell 2/15/94

(115)

1430 D/M going to try slug test on MW-84 - intermediate well that should bail dry or near dry - slow recharging - should get better reading

1500 Setting up at MW-84 will begin bailing - well should bail dry and recovery can be more accurately monitored using slope probe & water level meter.

A. Campbell 2/15/94

 2/15/94

1525 Well has been
bailed dry - beginning
recovery test - monitoring
recovery in tenths of
a foot to begin
with -

1600 Well is recovering at
a steady rate - easily
monitored with Slope
water meter -

1625 - Well still recovering
- taking readings based
on time now - recovery

[signature] 2/15/94

2/15/94
is slower -

1700 Well has almost
recovered to starting
water level - test will
stop at 2 HRS - should be
back to beginning level
1730 Off site

Activity Summary:

- Recovery tests -
L-1 - not done
3-4 - complete

[signature] 2/15/94

(118) 2/16/94

0750 On site - Clear / cold
highs to be in mid 30's

B. Eckhoff) DJM
C. Cook
A. Copeland Mike

Activities planned:

- More recovery tests - repeat B-4 - try J-3 or E-3

Eckhoff 2/16/94

2/16/94 (119)

0820 started bailing MW-A4 will be ~~repeating~~ repeating recharge test on this well - using the same techniques as yesterday

0900 - Begin monitoring of well recovery rate - in tenths to start

1000 Recovery is at same steady rate as yesterday

Copeland 2/16/94

 2/16/94

1100 Complete 2nd recovery test on MW-B-4 recovery time ~~be~~ is the same as yesterday

1115 Was going to try at MW D-3 - however ice in riser won't allow bailer to move down will try MW-E3 after lunch

1200 Start bailing at MW E-3 sheer head almost dry - will do

[signature] 2/16/94

2/16/94

test when dry

1245 Complete ~~bailed~~ bailing begin monitoring recovery

- ~~race~~ recovery too fast can't get accurate recovery rate - will try again

1320 - Trying again after bailing well - again too fast - try again at longer depth intervals

1350 - Try again - getting better

[signature] 2/16/94

(22) Hickey

results - however it seem that well is recovery too fast for this monitoring method
- Slope meter and stopwatch
- more accurate data could be gotten with different method

1415 off site

Hickey

(123)

Tuesday Feb 22, 1994
Stanley Tools

915 T. Hebie Arrive on site

Weather: Cloudy overcast, 23°F, wind 10-15 mph from west - NW

Personnel on site:
B. Eckhoff → D+M
C. Ohel
T. Hebie - M+E

D+M personnel decontaminating all bailers to be used
Todd Hebie 2/22/94

(124)

Decon procedure:
TSP-Wash
DI rinse
Nitric acid wash
DI Wash
DI rinse
-wrap in Al foil

Planned activities:
-All Phase I one wells sampled
-Begin Phase II sampling

950 ▲ 3-4 photos of Red Cedar River - Flooded

Todd Hallock 2/22/94

(125)

1025 Spoke with Dave Click, D&M, their s.w. data suggests that flow goes toward the river both directions, Thus No sampling will be done on the offsite wells. Dave will Fed Ex up info for a conference call Tomorrow 2/23/94

1104 Begin to arrive at MW-21
DTW - 7.36'
TD - 15.50
8.14'ft

Todd Hallock 2/22/94

(126)

AMT. TO purge 4 gals

1136 purged 8 gal,
begin TO sample
▲ Sample VOA at MW-L1

1150 Finish sampling

1200 Break for lunch

1309 Return, DTM TO go ser supplies

1330 -Return & prepare TO sample more wells

Todd Abri 3/22/94

(127)

1350 Arrive TO do BCK1 & BCK3

BCK3
DTW ~~3.36~~ 3.46
TD 31.5
27.04
purge 14 gal

BCK1
DTW 3.36
TD 15.50
11.14
purge 6 gal

▲ Bailing MW-BCK3

1403 Begin TO purge BCK-3

1429 Finish bailing 14 gals

1434 Begin to sample Bck-3
Bottles - 9-40ml VOA
Methods 8020 8240 8210
2-1-literamber Semi VOA
2-1literamber - Pest/PCB
2-1literamber - Herbs

Todd Abri 3/22/94

(128)

1-500ml plastic - CN
1-500mL plastic - Sulfide
1-~~1litre~~ 1000mL plastic - dissolved Metals

1450 Done sampling MW-BCK1
- All water (~~develop~~ purge) is containerized

1503 Begin to purge MW-BCK1

1518 Begin to sample MW-BCK1

1530 Finish sampling MW-BCK1

1606 Arrive at K-1 to purge and sample
Todd J. Aebi 2/22/94

(129)

1601 photo of Bill checking MW-K1 with HNU

MW-K1
TD 14.20
DTW -6.70
6.5 ft
purge amt 1 gal

1603 Begin to purge MW-K1
2 photos Christina bailing well

1622 Begin to sample MW-K1

1634 Finish sampling MW-K1

Todd J. Aebi 2/22/94

(130)

1643 Going to MW-F3 to resample BNA's, Lab broke the bottles DTM will purge required amt then sample for just BNA's

1648 2 - Wells MW-F's - 3 open and Red Cedar River Flooding

1650 MW-F3

T.D. ~~3.35~~ 20.65

DTW 2.38

18.27 FT

will purge 9 gals

Todd J. Albi 2/22/94

(131)

water is light lime green in color

1705 Begin to Sample MW-F3 for BNH's,

2-liter amber jars

1715 Go back to office Build

1730 T. Hegie leaves site, Drum packing samples, getting ready to take them to Fed Ex.

Todd J. Albi 2/22/94

(32)

Daily Summary 2/22/94

- Sample Phase II wells
  MW-Bck1
  MW-Bck3
  MW-L1
  MW-K1
-
- Resample well MW-F3 for BNA's, Lab broke the bottles
- Decon all bailers To be used.

Todd J. Aebi 2/22/94

(133)

Wednesday Feb. 23, 1994

0730 T. Aebie arrive on site weather: Snow overnite, 2-3", blowing & drifting, winter weather warning, 2-4" more possible, Temp 25°F, wind 15-20mph from west.

0800 D&M arrive on site

Personnel present:
B. Eckhoff - D&M
C. Ohel
T. Hebie - M&E

Todd J Aebi 2/23/94

(134)

Planned activities:
A. Water sampling continues

0830 D+M preparing all Labels and bottles for remaining wells

MW-J3

0930 30.50 T.D
5.46 DTW
25.04

purge ant 12 gal for 3 well volumes

&

Todd Aebi 2/23/94

(135)

.000 Well J-3 is frozen at 3'- bailer will Not go down
- D+M heated water & poured along x to outer casing - did not work.

- Will use a decanned hand auger rod to poke ice free

1045 Metal rod did not free ice, ice to 6 ft, will hope water in well warms up and frees ice

Todd Aebi 2/23/94

(136)

1050 Setting up to do well MW-J4

1052 MW-J4
T.D. - 14.20
DTW. - 5.20
9.0

gals to purge - 4.5

1100 Beg. to bail MW-J4
2pltr ▲ Purging J-4

1105 Finish purging 5 Gal out of well, begin to take readings

Todd J. Aebi 2/23/94

(137)

1115 Begin to sample J-4

1125 Finish sampling MW-J4 - all parameters sampled for

1200 Break for lunch

1300 Return

1305 D&M personnel making telephone calls, etc.

1345 Begin to collect a field blank

Todd J. Aebi 2/23/94

(138)

1406 Finish collecting Field Blank

1415 D&M TO go and sample more wells

1415 T. Aebie leave site for day

Todd J Aebie 2/23/94

(139)

Daily Summary 2/23/94

1) Collect Field Blank
2) Purge & sample wells MW-J4
3) Well MW-J3 is frozen, Tried to break Ice free, will have to wait until it Thaws
4) Should finish all wells 2/24/94

Todd J Aebie 2/24/94

Metcalf & Eddy
An Air & Water Technologies Company

March 4, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
Photolog Dates 2/22-23/94

Dear Mr. Valentino:

Attached is a copy of the photographs that were taken during the field oversight from 2/22-23/94. The photographs were taken to document the field work which was performed by Dames & Moore (D&M) personnel at the Stanley Tools Facility in Fowlerville, MI. A map of the facility with the photograph number on it is included. The map is a reference to where the photograph is taken at the site.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

Todd J. Aebie

Todd J. Aebie
Geologist

cc: Attachments
C. Bowers
File

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
614-890-5501 FAX 614-890-7421

AWT

PHOTOGRAPH #77

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	0950
SUBJECT:	View looking north from railroad bridge. Red Cedar River is flooded.

PHOTOGRAPH #78

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	0950
SUBJECT:	View looking north from railroad bridge. Red Cedar River is flooded.

PHOTOGRAPH #79

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	0950
SUBJECT:	View looking west from railroad bridge. Area where offsite wells located. Note: Well MW-0S1 in middle of photo.

PHOTOGRAPH #80

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1136
SUBJECT:	Dames & Moore personnel sampling VOA's in well MW-L1.

PHOTOGRAPH #81

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1350
SUBJECT:	Dave Eckhoff of Dames & Moore purging background well MW-BCK3.

PHOTOGRAPH #82

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1601
SUBJECT:	Bill Eckhoff of D&M checking headspace on well MW-K1 with an HNu.

PHOTOGRAPH #83

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1603
SUBJECT:	Christina Ohel of D&M purging well MW-K1.

PHOTOGRAPH #84

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1603
SUBJECT:	Christina Ohel of D&M purging well MW-K1.

PHOTOGRAPH #85

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1648
SUBJECT:	Wells MW-F's, well MW-F3 is open. Red Cedar River in background is flooded to Unit F.

PHOTOGRAPH #86

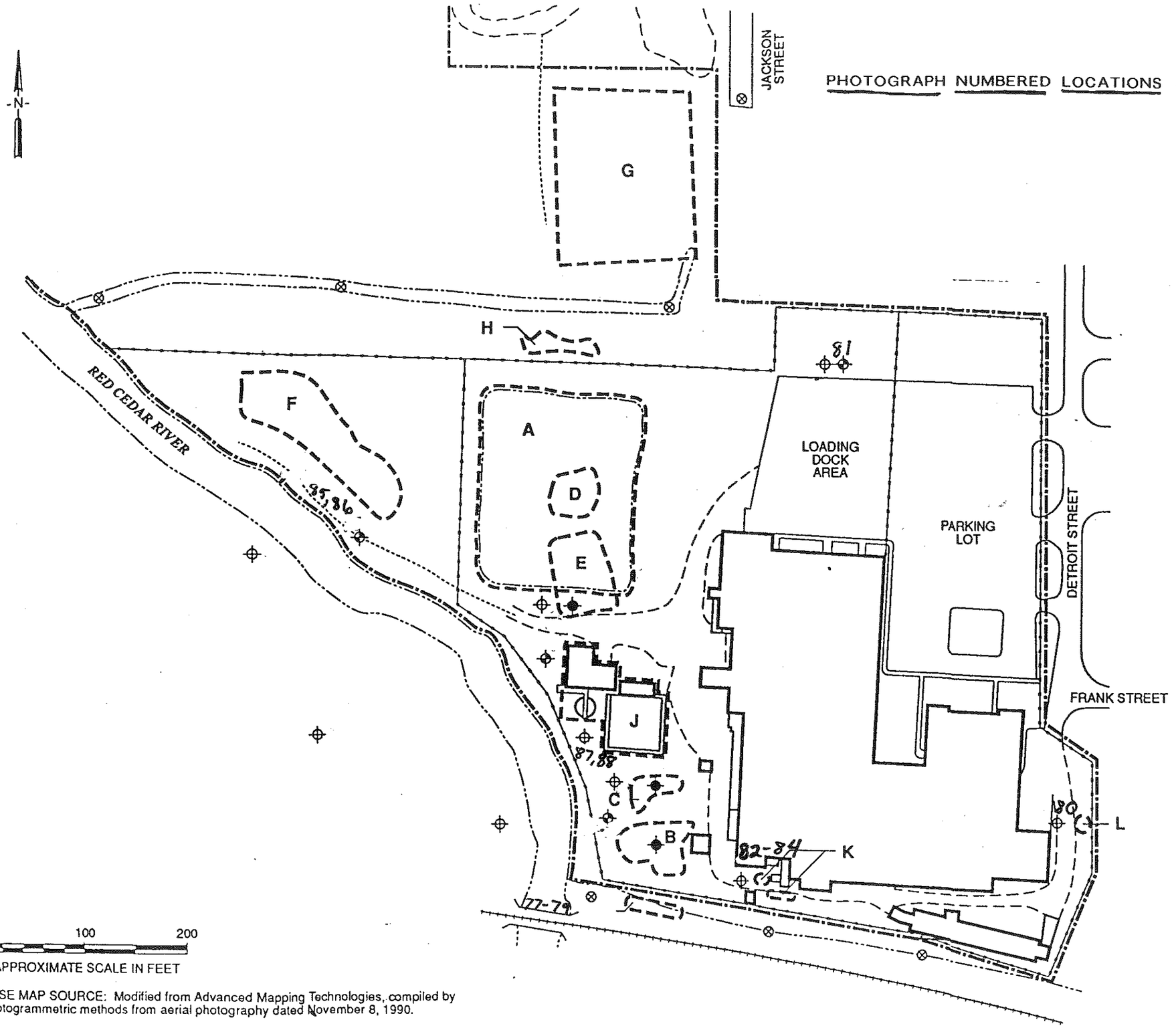
LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/22/94
TIME:	1648
SUBJECT:	Wells MW-F's with Red Cedar River in background. View looking south.

PHOTOGRAPH #87

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/23/94
TIME:	1100
SUBJECT:	Purging well MW-J4.

PHOTOGRAPH #88

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/23/94
TIME:	1101
SUBJECT:	Purging well MW-J4. Note: Very turbid water in bailer.



LEGEND:

- FACILITY BOUNDARY
- FENCELINE
- ROADWAY
- PATHWAY
- RAILROAD TRACK
- SURFACE WATER BODY
- PROPOSED SOIL BORING LOCATION
- PROPOSED GRAB SAMPLE
- PROPOSED MONITORING WELL (SHALLOW)
- PROPOSED MONITORING WELL (INTERMEDIATE)
- SOLID WASTE MANAGEMENT UNIT BOUNDARY
- A — AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B — ORIGINAL EFFLUENT POND
- C — FORMER SETTLING POND
- D — FORMER SETTLING POND
- E — FORMER SETTLING POND
- F — AREA OF UNTREATED SLUDGE DISPOSAL
- G — AREA OF CHEMFIXED SLUDGE DISPOSAL
- H — CHEMFIXED SLUDGE SPILL*
- I — DRAINAGE DITCH*
- J — WASTE WATER TREATMENT PLANT
- K — FORMER TANKS A AND B AREA
- L — FORMER TANK C AREA

* The spill and the ditch are not necessarily solid waste management units, but are areas to be investigated.

NOTE: SWMU locations are approximate.

BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

STANLEY TOOLS
FOWLERVILLE, MICHIGAN

FIGURE 3
ADDITIONAL BORING, WELL AND GRAB SAMPLE LOCATIONS

JOB NO. 3163-035-121 DAMES & MOORE

STANLEY #6

Metcalf & Eddy
An Air & Water Technologies Company

February 9, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
February 1-3, 1994

Dear Mr. Valentino:

Metcalf & Eddy, Inc. (M&E) performed the field oversight at the former Stanley Tools facility in Fowlerville, MI on February 1 through 3 1994. The field oversight was performed by Todd Aebie of M&E.

The Phase II work was performed by Dames and Moore (D&M) personnel along with Stearns Drilling who are developing the monitoring wells and drilling the soil borings. A daily accounting of the personnel present onsite is listed in the field notes. A copy of the field notes are provided with this letter.

The main activities to be performed for the week were the development of the monitoring wells, and the finishing of the grid sampling. The drilling company is developing the monitoring wells by air lift method, Brainard-Killman (B-K) pump, and moyno pump. These methods worked with limited success, so D&M decided to use a Grundfos Pump this week to finish the well development.

On February 1, M&E observed the grid soil sampling which was being completed. Bill Eckhoff of D&M along with one of the drill crews and rig from Stearns Drilling collected the grid boring samples from locations GB-9, GB-12 to GB-14. A field blank was also performed on a split spoon on GB-14. Development began on the monitoring wells which were installed during the Phase II work. An air lift method was used to develop MW-BCK1 (Shallow Background Well), along with MW-BCK3 (Intermediate Background Well). The shallow well developed after approximately 50 gallons had been purged. The intermediate well would not develop with the air lift method, so a B-K pump was used to finish development.

On February 2, M&E observed the grid sampling of locations GB-15 to GB-23 with an MS/MSD sample collected at the GB-15 location. The well development proceeded slowly for the day. Monitoring well MW-BCK3 (Intermediate) was partially developed using the B-K pump, but the water would not clear. The well is to be developed by a Grundfos pump next week (2/7-2/9). Monitor well MW-J4 would not air lift develop so the Moyno pump on the rig was used to suction out the water. Well MW-B4 was developed dry after removing 5 gallons of water. Dames & Moore personnel decided to use a Grundfos pump to finish developing the well. Well MW-C3 was developed using the Moyno pump and a total of 300 gallons of water were removed. The development water was very murky and had an oily sheen along with a hydrocarbon odor to it. The odor smelled like Kerosene.

On February 3, M&E observed the grid sampling of GB-24, GB-6, and GB-7. A field blank was obtained from the GB-24 boring along with a MS/MSD sample from the 2-4 foot interval. Well MW-E3 was developed using the B-K pump. A total of 50 gallons was to be removed during development. The previous week, an initial attempt to encounter and sample sludge at sludge boring E-3 resulted in no sludge being found. A second attempt to find the sludge was tried, but no sludge was found. A third boring was going to be attempted later in the day.

All of the activities completed during this time conform with the project work plan.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

Todd J. Aebie

cc:
File
C. Bowers

May 6, 1991

Mr. Glenn Stenard
United States Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Re: TES X, R05011 - Stanley Tools
RCRA Corrective Action
Field Activities Report: 4/18/91 - 4/19/91
and 4/24/91 - 4/25/91

Dear Mr. Stenard:

Enclosed is a copy of the field notes for oversight of the RCRA Corrective Action at the Stanley Tool site, Fowlerville, Michigan for April 18th and 19th, and April 24th and 25th, 1991. Also enclosed is a photograph log documenting the activities observed.

If you have any questions please feel free to contact me at (312)427-7433.

Sincerely,

METCALF & EDDY, INC.

Denise L. Murk

Denise L. Murk
Environmental Scientist

Enclosure

cc: F. Norling
File

Metcalf & Eddy

May 3, 1991

Mr. Glenn Sternard
U.S. EPA Region V
230 South Dearborn Street
Chicago, Illinois 60604

RE: TES X Work Assignment No. RO5011
Stanley Tool RCRA Corrective Action
Field Activities Report: 4/17/91-4/19/91 and
4/24/91-4/25/91

Dear Mr. Sternard:

Enclosed is one copy of the field notes for the oversight of the RCRA Corrective Action at the Stanley Tool Site, Fowlerville, Michigan for the period of April 18 and 19, and April 24 and 25, 1991. Also enclosed is a photograph log documenting the activities observed.

Personnel on-site were Karl Van Keuren, David Hunsinger, and Anne Lundahl of Dames & Moore, Mike Bond and Keith Dantes of Professional Services, Inc., and Andrew Campbell of Metcalf & Eddy.

Activities observed during the April 18 and 19 period consisted of collection of soil borings for physical and chemical analysis, collection of surface water samples from the Red Cedar River, and collection of soil samples from the bank of the Red Cedar River for chemical analysis.

Metcalf & Eddy observed soil borings being collected at locations C-1, C-2, E-2, E-1, J-1, and J-2. Metcalf & Eddy observed surface water, sediment, and bank soil samples being collected at locations RC-5 and RC-4. Dames & Moore was preparing to sample location RC-3 when Metcalf & Eddy left the site.

Activities observed during the April 24 and 25 period consisted of collection of ground water samples from monitoring wells installed on-site. Metcalf & Eddy observed ground water samples being collected at MW-E2, MW-J2, MW-J1, MW-C1, MW-C2, MW-A1, and MW-A2.

A duplicate sample and a matrix spike/matrix spike duplicate sample was collected at MW-C2. The duplicate sample was designated MW-C3. A field wash blank sample was collected at MW-A1 prior to collecting the ground water sample.

Several areas of concern came to our attention during the oversight period. Of primary concern is the fact that Metcalf & Eddy was not provided with all the Dames & Moore project documents. We do not have a copy of the Dames & Moore document titled Task 3. This document contains detailed descriptions of sampling procedures, analytical protocols, time schedules and other task

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Telephone: 614 890-5501 — FAX: 614 890-7421

specific information. Our oversight person was able to make use of a copy of this Task 3 document that was on-site. The other areas of concern are in regards to the decontamination water and monitoring well purge water generated as a result of activities on-site.

Decontamination water was not containerized. It was allowed to gather in a loading dock area after flowing through a lined, wooden box that allowed soil that was washed from equipment to settle. Water that was purged from the monitoring wells prior to sampling was discharged directly onto the ground and was not containerized. Also, as addressed in an earlier letter, soil cuttings generated during soil borings were left on the ground.

Metcalf & Eddy again recommends that full-time oversight be provided during the project.

Sample collection techniques employed by the PRP's consultant as observed by Metcalf & Eddy, were consistent with U.S. EPA approved plans and protocols. A photograph log of activities observed during this oversight period is included with this report.

Should you have any questions regarding this report, please call Andrew Campbell or me at (614) 890-5501.

Sincerely,

Andrew Campbell for

Christopher L. Bowers, P.E.
Contractor Project Manager

CLB/sac

Enclosures: Field Notes (13 pages)
Photograph Log (27 pages)

cc: T. Lentzen
TES X Files

(42) 4-24-93 91

1230 Arrival - cloudy & cool - Temp 45° high maybe of 60°

Personnel
K. VanKeuren - D/M
D. Thomsinger - D/M
A. Lundahl - D/M
A. Copsell - M!E

1245 - D!M set up for sampling of MW-E1 - 10 gals purged prior to sampling -
Andy Copsell 9/24/91

(43)

Readings

Temp(F)	47.1	47.1	46.9	47.0
S.C.	615	627	616	617
P.H	7.25	7.07	7.00	6.99
gals.	6	7	8	9

1315 Sampling begins at 1315 - protocal A

1335 Completed sampling at MW-E2

1345 Set up at MW-32 for sampling

1355 - Begin purging MW-32 17.5 gals
Andy Copsell 9/24/91

(44)

4-24-91
MW-J2

	PH	SC	TEMP
19 gals	7.24	740	52.5
21 gals	7.08	689	52.1
23 gals	7.15	704	52.3
24 gals	7.16	704	50.3

1430 Begin sampling MW-J2

1445 Sampling completed at MW-J2 setting up at MW-J1

1450 - Begin purging MW-J1
- water is very reddish in color w/ solids in it

[signature] 4-24-91

4-24-91 (45)

Volume	PH	SC	TEMP (F)
8 ~~A~~ AS gals	7.59	374	47.1
~~13~~ [illegible] gals	7.54	366	47.0
14 gals	7.46	373	47.0

1515 Begin sampling at MW-J1 - Water is gray/cloudy now

1530 Finished sampling at MW-J2

1545 Back to office to prep samples for shipment

1645 - Samples ready to ship

[signature] 4-24-91

(16) 4-24-91

1700 Setting up at MW-C1 & MW-C2

1710 Beginning to purge MW-C1 20 gals.

Volume	pH	SC	TEMP (F)
20 gals	7.31	539	58.6°
22 gals	7.20	520	55.2°
24 gals	7.15	521	55.1°

1745 - Beginning sampling MW C2 - also duplicating this - designated MW-C3 also MS/MSD

Lisa Schell 4-24-91

1830 Finished sampling at MW C2 - will start on MW-C1 next

1840 Begin purging at MW-C1

Volume	pH	SC	TEMP (F)
8 gals	7.05	1014	51.1°
10 gals	7.02	1330	50.6°
11 ~~12~~ gals	7.06	1331	50.4°
	7.04	1335	50.1°

1900 Begin sampling MW-C1

Lisa Schell 4/24/91

(48) 4-24-91

1910 – Completed sampling at MW-C1

1920 Return to office & put samples in refrigerator

1930 M & E depart site

Andrew Campbell 4-24-91

4-25-91 (49)

0730 Arrival – clear & cool high to be in mid-60's

Personnel:

Anne Lundahl – D & M
David Hunsinger – D & M
Karl VonKeeren – D & M
Andrew Campbell – M & E

0830 D & M prepping equipment for the days activities – will be short day – D & M taking Friday – Monday off – will resume on-site activities on Tues Apr. 30

Andrew Campbell 4/25/91

(50) 4/25/91

0900 I call office – talk w/ Todd Stabile about activities – he will tell Chris Bowers of progress and schedule

0910 Getting set up at MW-A1 + MW-A2

0925 Begin purging MW-A1 15 gals

Volume	pH	SC	TEMP (F)
15 gals	7.23	520	53.9°
16 gals	7.10	511	53.2°
17 gals	7.10	513	53.3°

Andrew Schell 4/25/91

4/25/91 (51)

22:23

0940 Photos – KVK purging MW-A1

24

1000 Photo – AL taking field parameters MW-A1

1005 Begin sampling MW-A1 25:26 photos DH/KVK sampling MW-A1

27

1015 Photo – AL filtering metals sample

1020 Completed sampling at MW-A1

Andrew Schell 4/25/91

(52) 4-25-91

1025 - I call G. Stannard USEPA to update him on progress & schedule - he tells me that it would be necessary to provide oversight the week of April 29, 1991 - unless I hear differently from him after he talks with J. Johnson at D&M.

1040 Setting up at MW-A2 to take field wash blank

Arch Ayres 4/25/91

4-25-91 (53)

1055 - Finished with wash blank - beginning to purge MW-A1 (6 gals) ~~slow~~

Volume	pH	S.C	TEMP. (F)
6 gals	7.02	563	53.5°
7 gals	6.90	534	51.3°
8 gals	6.90	518	51.3°
9 gals	6.89	514	51.3°

1125
~~1025~~ - Begin sampling MW-A1

1140
~~1040~~ Completed sampling at MW-A1

Arch Ayres 4/25/91

(59) 4-25-91

1200 Return to office
+ D/M preparing samples
for shipment

1230 Depart site

Andr [illegible] 4/25/91

(28) 4-18-91

0700 Arrival - clear & cool - high to be near 60° - no one from Dames & Moore is here yet

0800 Guard arrives and unlocks gate - no one else here yet.

0815 D&M - PSI - drilled on-site Arrive

D&M
Karl Van Kuren
David Hunsinger
Ann Lundell

PSI
M. Bond
K. Dantes
[signature] 4/18/91

4-18-91 (29)

0830 D&M decomm equip and calibrating them - will be doing river sampling & finishing up soil borings

0900 Take site walk - PSI set up and take soil samples at C-2 & C-1

0930 - PSI decomming spoons - only have 2 spoons using 3" spoons to get enough sample

(30) 4-18-91

0940 Photo 1 & 2 - looking west - Area A

Photo 3 & 4 - looking south - Area A + WW Treatment plant

0950 Photo #5 - looking NW - Area F

Photo #6 & 7 looking south - Area B

1035 - completed boring at C-2 - drillers to decon + then do C-1

Bruce Engwall 4/18/91

4-18-91 (31)

1040 Karl/Dave show up to do river samples

1050 photos 8 & 9 looking West - Area A - NW corner of plant

photo #9 - decon area - drillers decontg augers & spoons

1100 Karl/Dave selecting & staking river sample and bank sediment sampling locations

1200
1230 Lunch

1230 D. M setting up at RC-5 to collect samples
PSI set up at C-1 for soil boring

1300 Beginning sediment sampling at RC-5
HNu-0 - black ~~organic~~ topsoil looking dirt
- Photo #10

1310 Setting up for river sample at RC-5
Another boring 4-18-91

1315 Sampling river at RC-5 filter
Photos 11, 12, 13, 14

330 Completed ~~at~~ surface water sample - setting up for river bank sediment sampling

1340 Begin river sediment sampling at RC-5

Photo 15-16 sediment

1400 PSI at E-2 for soil borings
Barbara Gracel 4/18/91

(34) 4-18-91

1445
1345 completed at E-2 also take geotech sample - photo #17

1530 Called C. Bowers at office - update him on activities PSI decamp before moving to K-1

Karl/Dave back to office with samples from KG-5 - prepping samples for shipment

Anita Gehl 4/18/91

4-18-91 (35)

1600 I take pictures of Area B - where buried drums where found 18, 19, 20

1610 Finished at E-1 will decamp rig & auger & set up at Area J

1635 - Setting rig up at Area J - difficult location

1710 Set up at J-1 beginning soil boring - Photo 21

Anita Gehl 4/18/91

(36) 4-18-91

1800 Finished at J-1 water table approx 5.0-6.0 ft.

1815 PSI grouting up holes - D&M packing equipment away for the day - and calibrating there

1820 D&M taking headspace on samples from the day's borings

1900 Depart site

Andy Caplell 4/18/91

4-19-91 (37)

0730 Arrived - cloudy & cold - high to be near 55° - rain likely wind from NE

0800 D&M - PSI Arrive on site

Andy Caplell - M&K
Keith Davies - PSI
Mike Bond - PSI
Karl Vonlanken D/M
Dave Humsinger D/M
Anne Lundahl D/M

0815 D/M calibrating equipment

Andy Caplell 4/19/91

and readying supplies for day's activities. The activities will be continuous soil borings and continuous sampling of surface water, river sediment, and bank soil

0845 PSI setting up at ~~RC~~ J1

900 Boring at J-1 - duplicate sample here

0915 Karl/Dave setting up

Linda Lyshall 4/19/91

at RC 4 for water, soil and sediment sampling

0930 Samplings at RC 4 finished at J1 - moving to J2 after clean of spoons + augers

1010 Setting up at J2 for soil boring sampling continuous at RC-4

1030 Begin boring at J2

1100 Completed sampling at RC 4

Linda Lyshall 4/19/91

(10) 4-19-91

1115 Called Glenn Stennrod to update him on activities - told him of Schedule for next week - he wants me to come out on Wednesday the 24th and stay through until Friday the 26th

1125 Called C. Bowers & informed him of plan for next week

1200 Lunch
1230 return

Andy Kpfell 4/19/91

4-19-91 (11)

1250 Karl & Dave setting up to Sample at RC-3

PSI/Anne deconning to set up at next Soil boring

1330 M&K departs site

Andy Kpfell 4-19-91

PHOTOGRAPH 1

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0940
SUBJECT OF PHOTO:	Looking west - Area A.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 2

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0940
SUBJECT OF PHOTO:	Looking west - Area A.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 3

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0940
SUBJECT OF PHOTO:	Looking south - Area A and Wastewater Treatment Plant.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 4

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0940
SUBJECT OF PHOTO:	Looking south - Area A and Wastewater Treatment Plant.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 5

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0950
SUBJECT OF PHOTO:	Looking northwest - Area F.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 6

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0950
SUBJECT OF PHOTO:	Looking south - Area B.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 7

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	0950
SUBJECT OF PHOTO:	Looking south - Area B.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 8

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1050
SUBJECT OF PHOTO:	Looking west - Area A and northwest corner of plant.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 9

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1050
SUBJECT OF PHOTO:	Decontamination Area.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 10

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1300
SUBJECT OF PHOTO:	Dames and Moore personnel sampling bank soil at RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 11

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1315
SUBJECT OF PHOTO:	Dames and Moore personnel collecting surface water sample of RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 12

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1315
SUBJECT OF PHOTO:	Dames and Moore personnel collecting surface water sample of RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 13

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1315
SUBJECT OF PHOTO:	Dames and Moore personnel collecting surface water sample of RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 14

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1315
SUBJECT OF PHOTO:	Dames and Moore personnel collecting surface water sample of RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 15

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1340
SUBJECT OF PHOTO:	Dames and Moore collecting river sediment sample at RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 16

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1340
SUBJECT OF PHOTO:	Dames and Moore collecting river sediment sample at RC-5.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 17

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1445
SUBJECT OF PHOTO:	Collection soil boring at E-2.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 18

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1600
SUBJECT OF PHOTO:	Area B - location where buried drums were found.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 19

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1600
SUBJECT OF PHOTO:	Area B - location where buried drums were found.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 20

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1600
SUBJECT OF PHOTO:	Area B - location where buried drums were found.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 21

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 18, 1991
TIME:	1710
SUBJECT OF PHOTO:	Drilling set up at J-1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 22

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	0940
SUBJECT OF PHOTO:	Dames and Moore personnel purging MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 23

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	0940
SUBJECT OF PHOTO:	Dames and Moore personnel purging MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 24

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	1000
SUBJECT OF PHOTO:	Dames and Moore taking field parameters at MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 25

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	1005
SUBJECT OF PHOTO:	Dames and Moore personnel collecting sample at MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 26

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	1005
SUBJECT OF PHOTO:	Dames and Moore personnel collecting sample at MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

PHOTOGRAPH 27

FACILITY:	Stanley Tools - Fowlerville, Michigan
DATE:	April 25, 1991
TIME:	1015
SUBJECT OF PHOTO:	Dames and Moore personnel field filtering sample at MW-A1.
PHOTOGRAPHER:	Andrew Campbell
CAMERA TYPE:	Fuji DL-30
FILM TYPE:	Kodak Gold 200

Metcalf & Eddy

October 26, 1990

Glenn Sternard
U.S. EPA - Region V
230 South Dearborn Street
Chicago, IL 60604

Re: TES X Work Assignment No.R05011
Stanley Tool RCRA Corrective Action
Field Activities Report: 10/22/90 and 10/23/90

Dear Mr. Sternard:

Enclosed is one copy of the field notes for the oversight of the RCRA Corrective Action at the Stanley Tool Site, Fowlerville, Michigan, for the two day period of October 22 and October 23, 1990.

Personnel on-site were Ben Steward and Lynn Craig of Dames & Moore (D&M), Paul Libby, Mark Hardy and Mike Bond of Professional Services, Inc. (PSI), and Steve Hulett of Metcalf & Eddy (M&E).

Activities observed during this two day period consisted of site reconnaissance, installation of a 12 inch surface casing at deep well site number MW-BCK and installation of a shallow well at well site number MW-F1.

Problems encountered and concerns of the oversight personnel are as follows:

* During the site reconnaissance of Solid Waste Management Unit G, M&E personnel observed Unit G sludge exposed on the ground surface. The color of the sludge was a distinct green, typical of hexavalant chromium. The analytical analysis of Unit G samples does not include an analysis for hexavalent chromium.

* Borehole and well cuttings are being disposed of in shallow pits dug next to the well sites. These pits are unlined and at lease one was two thirds full of surface water.

* In order to isolate the upper aquifer from the lower aquifer at deep well locations, D&M is installing 12 inch steel casings into the clay aquitard separating the two aquifers. The Stanley Tool QAAP states that this steel casing will be sealed with a portland-bentonite grout. This grout is to be installed by pumping it through a tremie pipe which has been inserted to the bottom of the boring. Therefore, the water column in the boring would be displaced from the bottom up, and thus minimize grout - water mixing. D&M did not follow this procedure. They installed the grout seal by pouring buckets of grout into the casing. The grout then falls to the bottom of the borehole through the water column.

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
Telephone: 614 890-5501 — FAX: 614 890-7421

It is M&E's opinion that as the grout falls through the water column, it is mixing with the water, thus diluting the gout-water mix. This will significantly increase the time needed for the grout to set, and thus seal the borehold-casing annulus. This deviation from the QAPP was brought to D&M's attention. D&M said that further well installations would be installed according to the procedure stated in the QAPP. When M&E left the site, D&M was preparing to set another surface casing and to M&E's knowledge, no provisions had been made for correct surface casing installation.

* When well MW-F1 was installed, the water table was encountered at 4.5 feet. The clay aquitard was encounter at 15 feet. The well was to be constructed with a 10 foot screen across the entire depth of this ground water formation, a sand pack at least 2 feet above the top of the screen, a 2 foot benetonite seal topping the sand pack and grout to the ground surface. This construction was not possible due to the shallow depth of the water table. D&M set the bottom of the well at 16 feet. This positioned the top of the well screen 1.5 feet below the surface of the water table. Thus, any floating compounds which may be present (e.g. Kerosene) will be missed when this well is sampled.

* M&E could not find a reference for managing "decon" water disposal in the Stanley Tool documents. Standard procedure would be to drum the liquid, sample, analyze, and then dispose of it accordingly. D&M said they had planned to pour the decon water on the ground.

It is Metcalf & Eddy's opinion that these problems should be addressed and USEPA may want to further review and reevaluate Dames & Moore's Work Plan Documents. Further, we recommend a full time site representative be on site to observe the installation of wells. There will be no assurance that wells are properly installed and subsequent sampling and analysis will always be questionable. We currently have an approved Work Plan for about 14 days of field work, compared to the planned 8 week well installation program of Stanley Tools.

If you have any questions please feel free to call me at (614) 890-5501.

Sincerely

Christopher Bowers, P.E.
Senior Project Engineer

CB/kw

xc: Mr. Stotler
Mr. Lentzen
Mr. Hulett
File 151011

#82

Stanley Tools

151011-0001-626

Fowlerville Michigan

Metcalf & Eddy

2800 Corporate Exchange Dr

Suite 250

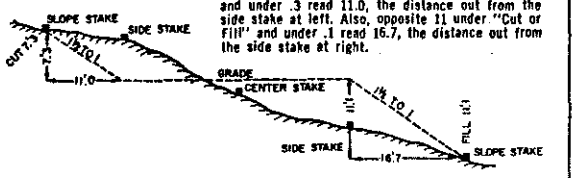
Columbus Ohio

43231

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

Glenn Sternard
USEPA - RPM
312-886-4582

Weather: Clear temp 45°

Personnel onsite

Ben Stewart - D&M
Lynn Craig - " "
Paul Libby - PSI
Mark Hardy - "
Mike Bond - "
Steve Hulett - NW&C

0745 NW&C arrives onsite.
D&M not onsite
PSI onsite & said
D&M will arrive at
about 8:00 AM

0755 Ben Stewart & the
project manager from
D&M arrives & shows
me around

0810 Willie Paul Libby &
Mark Hardy, Mike Bond, PSI.
0810 Lynn Craig arrives
onsite.

0815 Lynn Cree gives tailgate H&S meeting. Level D with Tyvec & Boots

0820 D&M, PSI & M&E go to inspect SMW-G. Very hard to reach & will have to get casons to drive over. Sludge is a distinctive Hex chrom green. M&E ask if sampled for Hexchrom previously. Lynn said they sample quarterly, but not for Hex-Chrom.

0845 Cuttings will be disposed of in shallow pits. Will check in QAPP. Seems not a good idea, but will check.

0855 I can't find any reference to disposal of cuttings in the D&M QAPP. This is not SOP & will be noted in the report. Drillers & D&M are waiting to get started. Will drill deep background well first.

0920 Tyson says they will set a 12" casing in the clay layer. They will do this by boring a 14" diameter hole and filling it with grout as they remove the augers. Then they will push a 12" casing through the grout into the clay layer and let set 48 hrs. They will then drill through the grout + spoon through the clay + set a well. If they drill 100 ft + are still in the clay, they will grout and abandon the hole.

0930 PST set ups on the background well

0945 PST arrives with 12" casing -

1000 Tried to call Rhonda McBride, will call back in about 1/2 hour to confirm the conference call week. D&M are calibrating their equipment, i.e. HNU + Build monitor

1010 NWBCK drilled to 5 ft PSI preparing to take a spoon

5-7 ft
Full recovery, Plastic gray silty clay. Sample taken with california modified split-spoon.

1025 HNU = 0.2 at borehole

1045 9.5-11.5 ft.
full recovery, 13" fine to med grained gray sand, 6" coarse grained angular to sub-rounded

gray to white ~~gr~~ sand to fine grained gravel.

15-17 ft Same, maybe a little finer.

1145 20-22 ft.
full recovery, fine grained silty sand. last 2" silty gray clay. [illegible] tubes [illegible] used for CN. + Vinyl Chloride.

1155 Great Lakes Environmental services arrive onsite to remove the CN. bath

equipment.

1200 Everyone prepares to go to lunch. M&E off site

1240 M&E return from lunch. drillers are preparing to start drilling.

1300 D&M will take one more spoon to confirm the clay layer.

1310 25-27 ft
full recovery dense gray dry silty clay.

Dames & Moore will set the surface casing.

1330 ~~Dames & Moore~~ SH PSI is mixing the grout in a cement mixer. M&E ask D&M how they were going to put the grout in the hole. D&M said they would pour the grout in and not tremmie the grout as stated in the QAPP.

D&M said they had no provision to tremie the grout & that the QAPP wasn't approved anyway.

1345 PSI has 25 feet of 6¼ ID auger in the bottom of the 12¼ ID auger & is pouring the grout down through the inner auger by bucket and funnel.

1350 PSI removes 10 ft of the inner auger & continues to pour in the grout.

1420 PSI pulling augers & pouring grout down hole.

1435 PSI still pulling augers & pouring grout down the hole.

1450 PSI preparing to install the 12" casing.

1505 PSI starting to install 12" id surface casing

1535 PSI pounding surface casing down with 300 lb hammer

1½" ID surface casing set to ≈6" above ground surface. PSI will now pump water down into the casing to displace the grout.

1605 L. Oreg - D&M called the office and they will trim the grout on the remaining holes.

1610 PSI has their pickup truck stuck by the rig. they are going to pull it out with

the 4 wheel drive.

1617 PSI has unstuck the pick-up and is loading up the augers for deconning.

1618 Can't find a QAOP what is to be done with decon water. D&M says decon water & well development water can be dumped onsite.

1620 Grout from borehole was pumped into

a pit dug next to the well.

1630 D&M & PSI are clean up M&E offsite.

End of day

D&M installed 12" surface casing at MW-BC5 the background well, and decided to use mats to reach drill site at SMV-G.

Steve A Hutt

(16) 10-23-96 (17)

0725 M&E arrives onsite
D&M onsite, waiting
for PSI.

Weather: Temp ~~40~~ 44° ~~x~~ 30°F
Cloudy.

Personnel onsite.
Jim Stewart - D&M
Lynn Crue - " "
Paul Libby - PSI
Mike Bond - "
Mark Hardy - "
Steve Hulett - M&E

0733 Professional Services
Inc arrives

0800 PSI loading up
equipment and preparing
to start drilling.

0807 L. Creg - D&M says
they will take the
supplies to the
drill site first &
then take the rig
back + set up

(18)

0650 PSI set up and daily MW-FI

4-6 ft. 18" recov.
4" gray sand & gravel, 60% sand-med grained, 40% gravel fine grained, 8" gray wet silty clay, 6" sand & gravel, Red grained gray sand-60% 40% fine grained gray gravel.

(19)

6-11 ft. full recovery fine to Med to coarse grained gray sand, <5% fine grained gray gravel, saturated.

14-16 ft. 12" recovery, Saturated gray silty, sandy clay

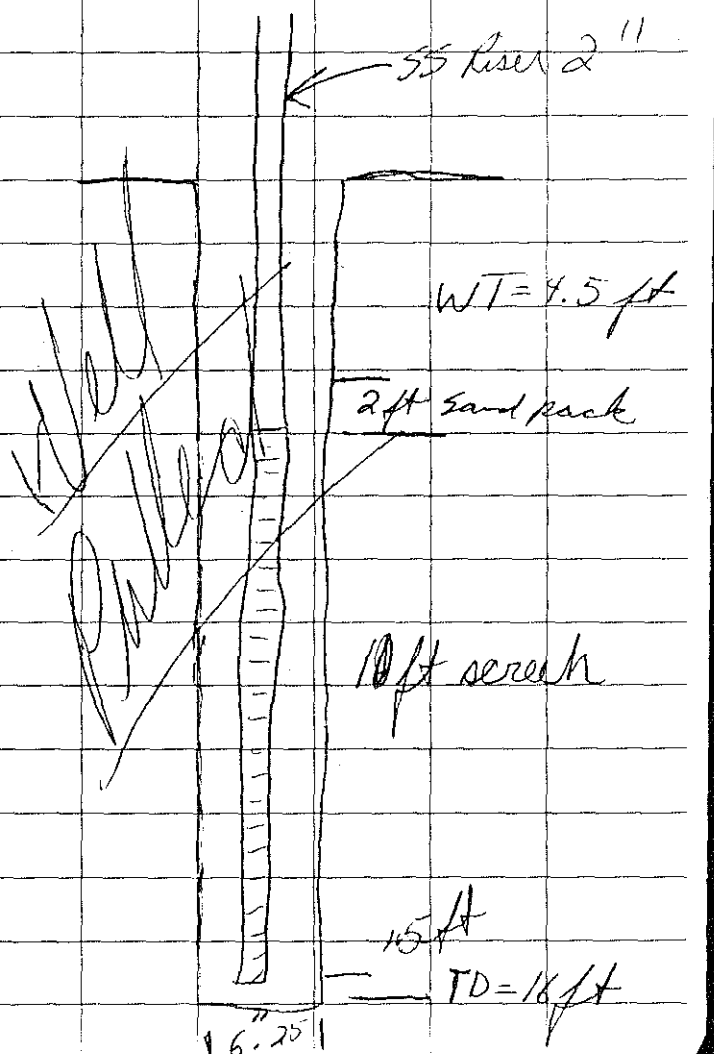
0920 L. Craig will call office & get permission to set well.

0950 It appears that the adaptors for the screen to the riser is galvanized

material of stainless steel.
B+M is calling the supplier.

1005 It has been determined that the adaptors are galvanized steel. PSI has some stainless risers with the right type threads. PSI will clean clean the risers & we will set the well.

1023 PSI starts setting well with 10 ft stainless steel 10 slot screen & 10 ft of stainless steel riser.



1100 M&E, O&M, & PSI. go to lunch, will start after lunch.

1130 M&E returns to site O&M on site.

1200 PSI put bentonite pellets in the hole to seal off the well. The bentonite pellets hydrated and pulled the well when they pulled the auger. O&M wants to redrill the hole to 17 ft & set the well that then

the screen would not be steady the water table. But if they set it back at 15 ft then they can't get 2 ft of bentonite for a seal. L. Coy is going to call the office to see what is to be done.

1230 PSI has agreed to and will set the well at 16 ft with a 10 ft screen. The water table is at 4.5 ft.

12:45 MW-F1 set

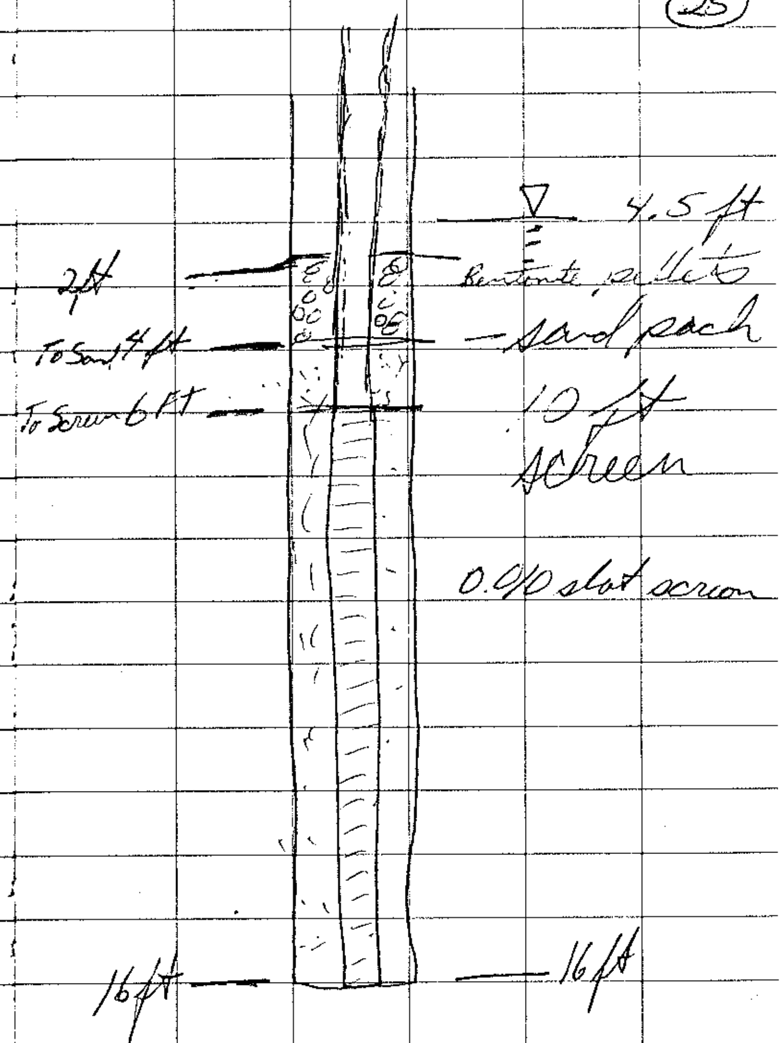
TD = 16 ft

Top of screen = 6 ft

T of Sand = 4 ft

T of Plug = 2 ft

1250 PSI will drive rig back to decon and then grout the hole later & set procam.



1315 PSI is steam cleaning augers & rig.

1400 Nothing much going to be happening for a while so M&E is offsite & heading home.

End of Day

Danes & Moore finish setting well # MW-F1, a shallow well set at 16 ft. The water table is at 4.5 ft. When M&E left the site they were steam cleaning and preparing to set

a surface casing on top of the clay layer for a deeper well at SMU-#F.

[signature]

D 23

M&E Metcalf & Eddy
An Air & Water Technologies Company

February 14, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
Photolog Dates 1/26-28 & 2/1-3/94

Dear Mr. Valentino:

Attached is a copy of the photographs that were taken during the field oversight from 1/26-28 & 2/1-3/94. The photographs were taken to document the field work which was performed by Dames & Moore (D&M) personnel at the Stanley Tools Facility in Fowlerville, MI. Included with the photographs is the revised schedule for the field activities along with my anticipated schedule for performing field oversight.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

Todd J. Aebie

Todd J. Aebie
Geologist

cc: Attachments
C. Bowers
File

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
614-890-5501 FAX 614-890-7421

AWT

PHOTOGRAPH #35

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1220
SUBJECT:	Advancing split-spoon at GB-30.

PHOTOGRAPH #36

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1225
SUBJECT:	Logging split-spoon at GB-30.

PHOTOGRAPH #37

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1225
SUBJECT:	Drillers performing initial decon on split-spoon.

PHOTOGRAPH #38

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1430
SUBJECT:	Drilling of MW-F5 (Intermediate Well).

PHOTOGRAPH #39

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1430
SUBJECT:	Drillers warming torch.

PHOTOGRAPH #40

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1600
SUBJECT:	Decon of augers and drilling equipment.

PHOTOGRAPH #41

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/26/94
TIME:	1430
SUBJECT:	Dames & Moore taking an equipment blank.

PHOTOGRAPH #42

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/27/94
TIME:	1430
SUBJECT:	Sampling at GB-69.

PHOTOGRAPH #43

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/27/94
TIME:	1430
SUBJECT:	Sampling at GB-69.

PHOTOGRAPH #44

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/27/94
TIME:	1500
SUBJECT:	Drillers emptying drums into roll-off.

PHOTOGRAPH #45

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/27/94
TIME:	1500
SUBJECT:	Emptied material in roll-offs.

PHOTOGRAPH #46

LOCATION: Stanley Tools, Fowlerville, MI
DATE: 1/28/94
TIME: 1215
SUBJECT: Installing off-site well MW-~~053~~ OS 3.

PHOTOGRAPH #47

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/28/94
TIME:	1540
SUBJECT:	Sampling of GB-11.

PHOTOGRAPH #48

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1448
SUBJECT:	Setting up to air surge MW-BCK1 (shallow well).

PHOTOGRAPH #49

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1450
SUBJECT:	Setting up to air surge MW-BCK1 (shallow well).

PHOTOGRAPH #50

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1450
SUBJECT:	Setting up to air surge MW-BCK1 (shallow well).

PHOTOGRAPH #51

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1451
SUBJECT:	Setting up to air surge MW-BCK1 (shallow well).

PHOTOGRAPH #52

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1451
SUBJECT:	Setting up to air surge MW-BCK1 (shallow well).

PHOTOGRAPH #53

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1455
SUBJECT:	Muskrat near MW-BCK, a lot of burrows and tracks in the area.

PHOTOGRAPH #54

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1505
SUBJECT:	Developing MW-BCK1 (shallow well).

PHOTOGRAPH #55

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1505
SUBJECT:	Developing MW-BCK1 (shallow well).

PHOTOGRAPH #56

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/1/94
TIME:	1505
SUBJECT:	Murky development water after 20-25 gallons - MW-BCK1 (shallow well).

PHOTOGRAPH #57

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	0858
SUBJECT:	Drillers using Brainard-Killman (B-K) pump to develop MW-BCK3 (intermediate well).

PHOTOGRAPH #58

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1030
SUBJECT:	Dames & Moore conducting health & safety monitoring at GB-17.

PHOTOGRAPH #59

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1130
SUBJECT:	Air surging MW-J4.

PHOTOGRAPH #60

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1130
SUBJECT:	Air surging MW-J4.

PHOTOGRAPH #61

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1330
SUBJECT:	Grid boring GB-18.

PHOTOGRAPH #62

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1430
SUBJECT:	Grid boring location GB-19, south bank of north drainage ditch.

PHOTOGRAPH #63

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1432
SUBJECT:	Staked locations GB-21, -22 and -23 along south side of north drainage ditch, looking toward Red Cedar River.

PHOTOGRAPH #64

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1520
SUBJECT:	Air surging MW-C3.

PHOTOGRAPH #65

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1540
SUBJECT:	Development of MW-C3 using the Moyno pump.

PHOTOGRAPH #66

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1540
SUBJECT:	Development using the Moyno pump on MW-C3.

PHOTOGRAPH #67

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/2/94
TIME:	1540
SUBJECT:	Development using Moyno pump on MW-C3.

PHOTOGRAPH #68

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	0911
SUBJECT:	Location of MW-OS3.

PHOTOGRAPH #69

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	0913
SUBJECT:	Location of MW-OS2.

PHOTOGRAPH #70

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	0914
SUBJECT:	Location of MW-OS1.

PHOTOGRAPH #71

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1010
SUBJECT:	Location of GB-24. Location is 50' east of Red Cedar River, north of the North Drainage Ditch.

PHOTOGRAPH #71

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1010
SUBJECT:	Location of GB-24. Location is 50' east of Red Cedar River, north of the North Drainage Ditch.

PHOTOGRAPH #72

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1010
SUBJECT:	Location of GB-24. Location is 50' east of the Red Cedar River, north of the North Drainage Ditch.

PHOTOGRAPH #73

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1152
SUBJECT:	Trying the Moyno pump on MW-E3; would not work.

PHOTOGRAPH #74

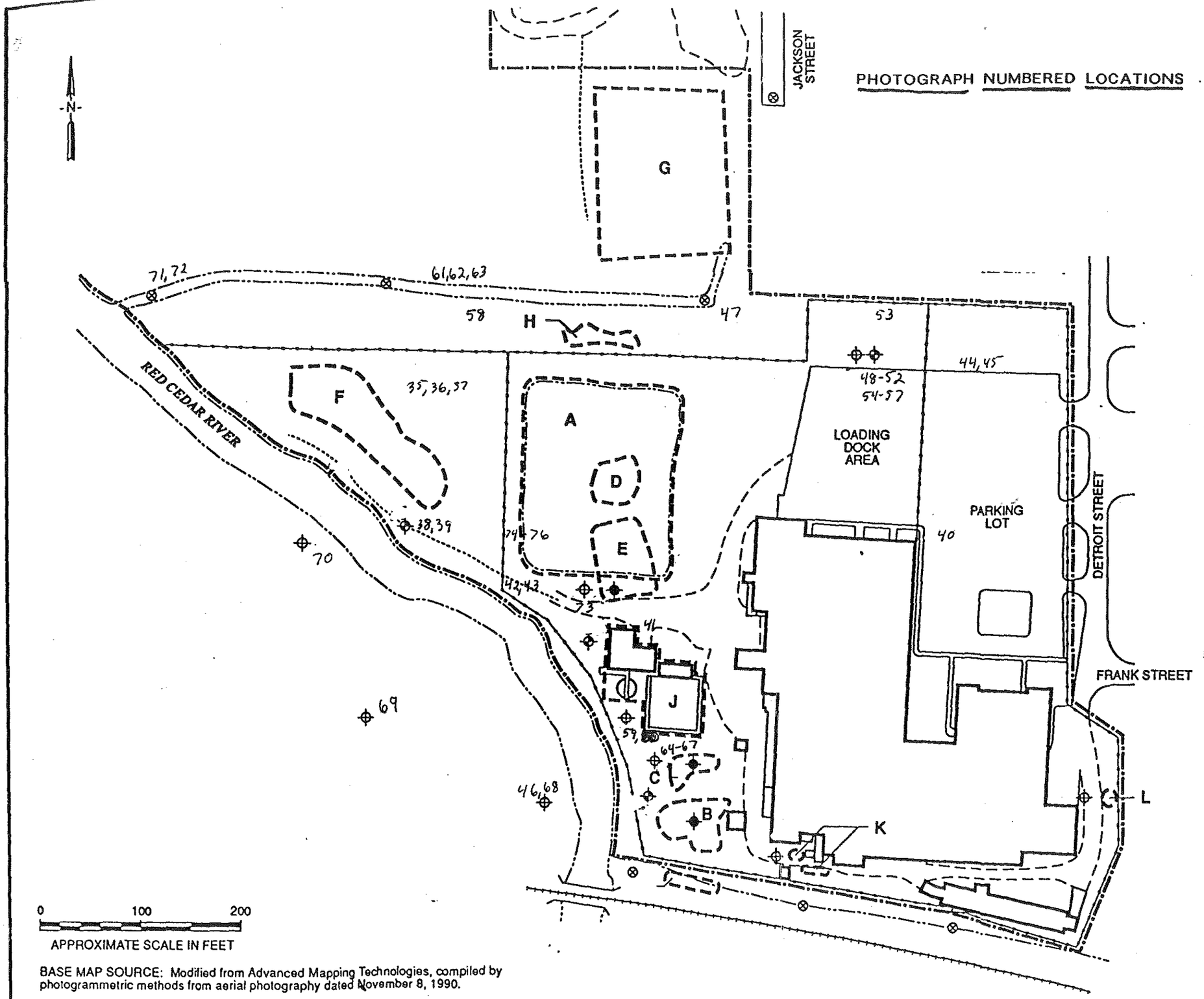
LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1340
SUBJECT:	Well MW-E3 with B-K pump. Setting up on Sludge Boring E-3.

PHOTOGRAPH #75

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1340
SUBJECT:	Location of Boring E-3.

PHOTOGRAPH #76

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	2/3/94
TIME:	1340
SUBJECT:	Location of Boring E-3.



BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

LEGEND:

- FACILITY BOUNDARY
- FENCELINE
- ROADWAY
- PATHWAY
- RAILROAD TRACK
- SURFACE WATER BODY
- PROPOSED SOIL BORING LOCATION
- PROPOSED GRAB SAMPLE
- PROPOSED MONITORING WELL (SHALLOW)
- PROPOSED MONITORING WELL (INTERMEDIATE)
- SOLID WASTE MANAGEMENT UNIT BOUNDARY
- A AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B ORIGINAL EFFLUENT POND
- C FORMER SETTLING POND
- D FORMER SETTLING POND
- E FORMER SETTLING POND
- F AREA OF UNTREATED SLUDGE DISPOSAL
- G AREA OF CHEMFIXED SLUDGE DISPOSAL
- H CHEMFIXED SLUDGE SPILL*
- I DRAINAGE DITCH*
- J WASTE WATER TREATMENT PLANT
- K FORMER TANKS A AND B AREA
- L FORMER TANK C AREA

* The spill and the ditch are not necessarily solid waste management units, but are areas to be investigated.

NOTE: SWMU locations are approximate.

STANLEY TOOLS
FOWLERVILLE, MICHIGAN

FIGURE 3
ADDITIONAL BORING, WELL AND GRAB SAMPLE LOCATIONS

JOB NO. 3163-035-121 DAMES & MOORE

2/4/94

To: Mike Valentino
From: Todd Hebie

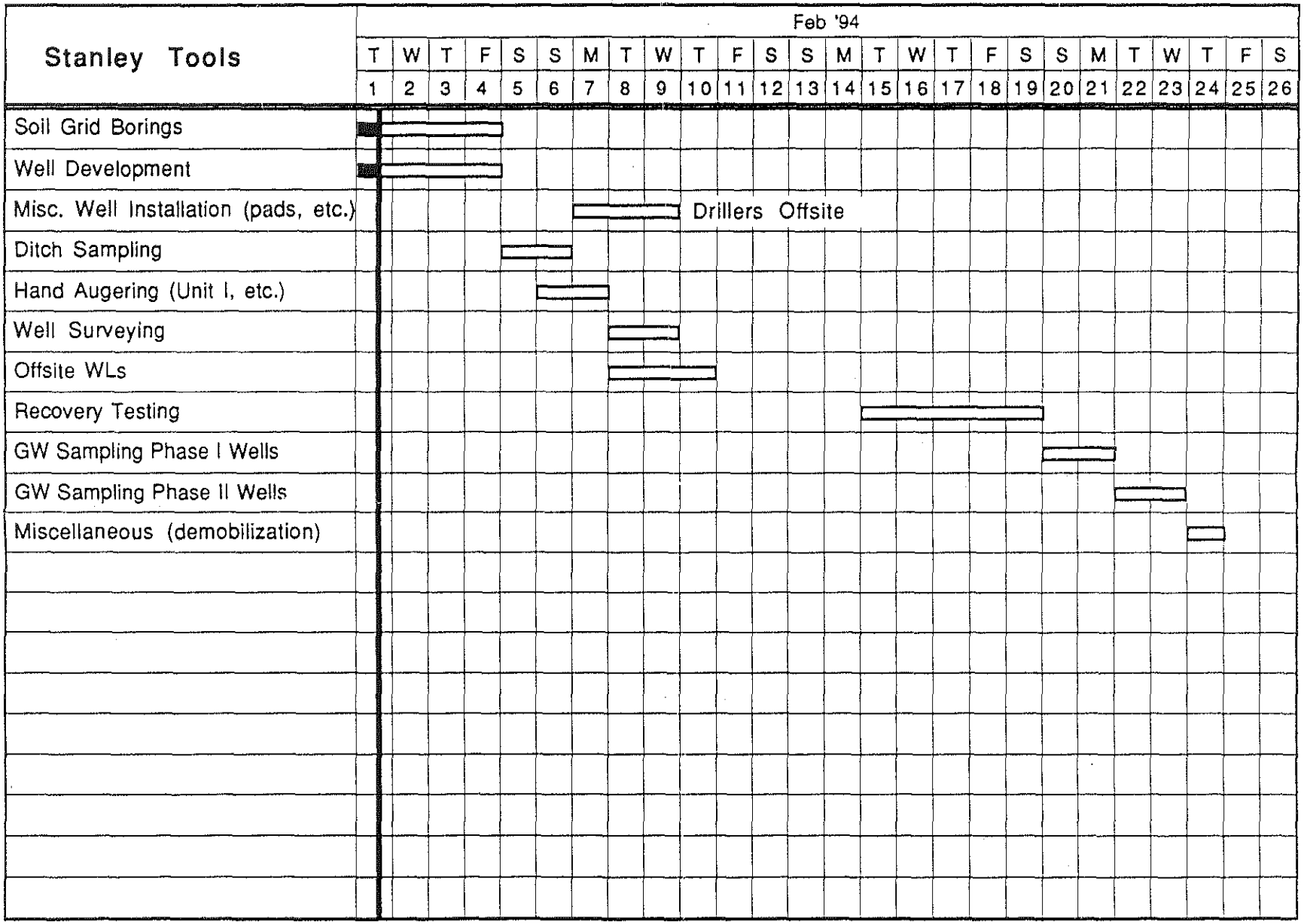
Re: Stanley Tools

Mike,

Here is the revised schedule for the work to be performed at Stanley Tools. I am planning on being on site Feb. 15-16 and Feb 22-24, 1994. These will allow me to ~~~~ observe the recovery testing and g.w. sampling. I hope that you can make it during one or both of these periods also.

Everything went well for the week 2/1-2/4, but well development is a little slow. A copy of the field notes will be mailed next Monday. I'll also be in the office all next week.
I hope to talk to you then and finalize travel arrangements. See you in Fayetteville,

Todd



Draft
Tuesday, February 1, 1994

Metcalf & Eddy
An Air & Water Technologies Company

February 2, 1994

Mr. Michael Valentino
United States Protection Agency Region V
Mail Stop HRE-8J
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Work Assignment R05011 - Stanley Tools Field Oversight - January 26-28, 1994

Dear Mr. Valentino:

Metcalf & Eddy, Inc. (M&E) performed the field oversight at the former Stanley Tools facility in Fowlerville, Michigan on January 26 through January 28, 1994. The field oversight was conducted by Jeff Bates of M&E.

The Phase II work was performed at the facility by Dames & Moore personnel along with Stearns Drilling, who are installing the monitoring wells and drilling the soil borings. A daily accounting of the personnel present on-site is listed in the field notes. A copy of the field notes is presented with this letter.

On January 26, M&E observed the drilling, installation and completion of the intermediate monitoring well MW-F5, installed to a depth of 30 feet. This work was performed by Christina Oehl of Dames & Moore and by members of Stearns Drilling Company using one drill rig. The grid soil sampling was performed by Bill Eckhoff and Stearns Drilling Company using a second drill rig at locations GB-29 through GB-32 north of Area F. An additional grid boring sample was obtained by Christina Oehl and Stearns Drilling Company at GB-72. M&E also observed Bill Eckhoff and Stearns Drilling Company obtain rinse blank samples.

Most of the soil sampling and monitoring well installation work was suspended on January 27 because of adverse weather conditions, but repair of decontamination equipment, melting and emptying of soil barrels into roll-off boxes, decontamination, mobilization and setting up of drill rigs was performed. Paper work was performed by Bill Eckhoff of Dames & Moore. One soils boring sample at location GB-69 was obtained by Bill Eckhoff and Stearns Drilling Company.

On January 28, M&E observed the drilling, installation and completion of the three off-site monitoring wells that are adjacent to the Red Cedar River. The wells MW-0S1 through MW-0S3 were drilled and installed to a shallow depth of ten feet with the same construction at all three wells. This work was performed by Christina Oehl and by members of Stearns Drilling Company. The grid soil sampling continued with samples obtained at locations GB-33 through GB-37 and at GB-11, located north of Area A. A matrix spike and a matrix spike duplicate

sample was also obtained. This work was performed by Bill Eckhoff and members of the Stearns Drilling Company.

All of the field activities completed during this time conform with the project work plan.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.

Jeffrey K. Bates

JKB/djg

Enclosures

cc: File
Chris Bowers

Metcalf & Eddy
An Air & Water Technologies Company

January 20, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
Photolog Dates 1/11-13/94

Dear Mr. Valentino:

Attached is a copy of the photographs that were taken during the field oversight from 1/11-13/94. The photographs were taken to document the field work which was performed by Dames & Moore personnel at the Stanley Tools Facility in Fowlerville, MI. Included with the photographs is a map of the site with numbered locations showing where the photographs were taken. The numbers on the map correspond to the numbers on the photographs.

Also attached is the grid boring map from Figure 4, of the Phase II Work Plan dated October 8, 1993. Included are the numbers to the grid borings as Dames & Moore labeled them in the field. There are a total of 99 locations. Grid boring #40 has been deleted since it falls on a large pile of soil. Dames & Moore proposes to collect a composite sample from 10 locations on the soil pile instead of a single grid boring. This change to the work plan is of no consequence.

The week of January 24-28, 1994; I will not be able to be onsite. Mr. Andrew Campbell will be taking my place. He will arrive on the 25th and stay until the 27th or 28th depending on the work performed. Mr Campbell performed the oversight for the Phase I activities. I am planning to be onsite during the first week of February.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

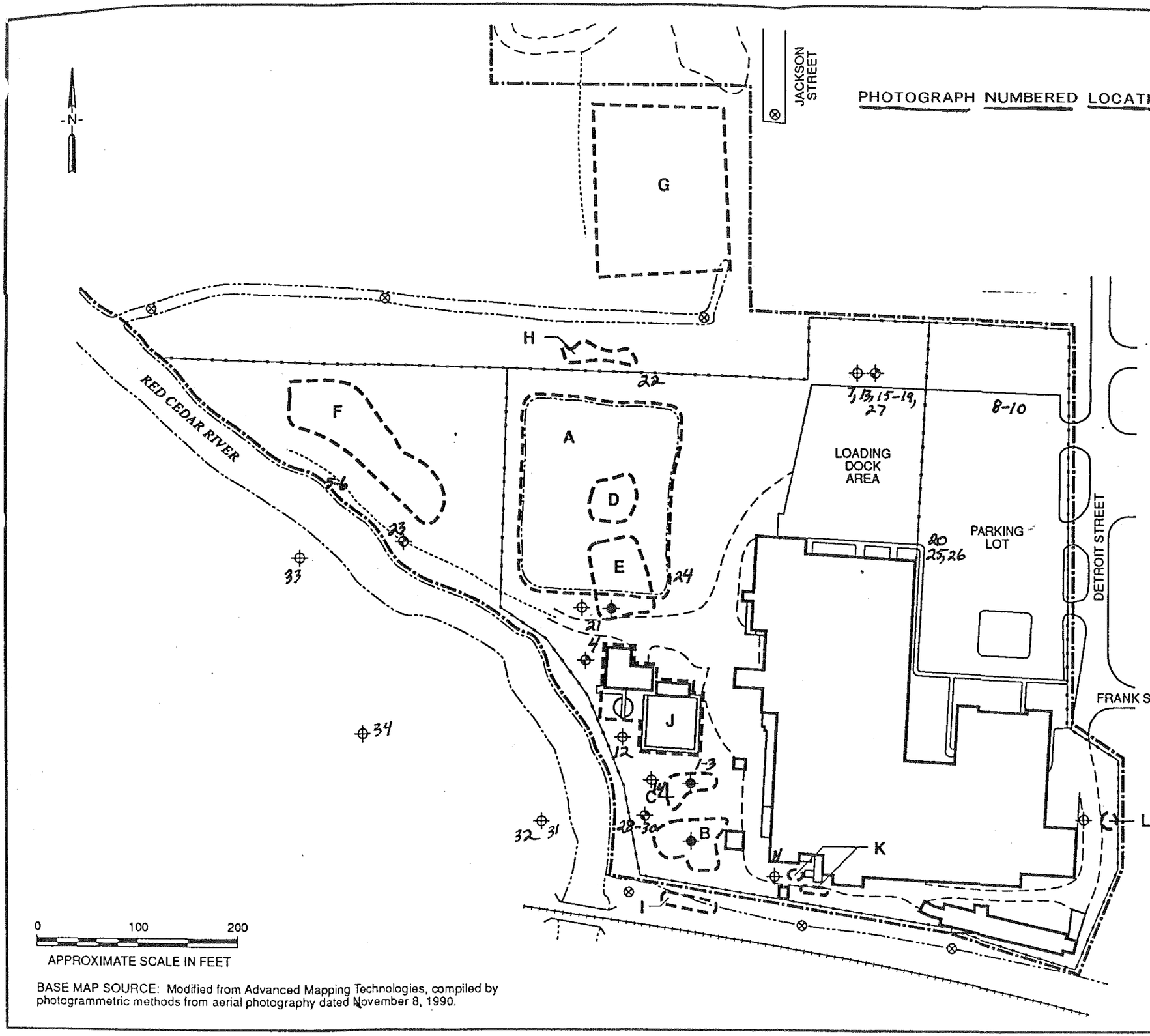
Todd J. Aebie

Todd J. Aebie
Geologist

cc: Attachments
C. Bowers
File

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
614-890-5501 FAX 614-890-7421

AWT



BASE MAP SOURCE: Modified from Advanced Mapping Technologies, compiled by photogrammetric methods from aerial photography dated November 8, 1990.

PHOTOGRAPH NUMBERED LOCATIONS

LEGEND:

- FACILITY BOUNDARY
- FENCELINE
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- PATHWAY
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- PROPOSED GRAB SAMPLE
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- PROPOSED MONITORING WELL (INTERMEDIATE)
- SOLID WASTE MANAGEMENT UNIT BOUNDARY
- A — AREA OF CLOSED RCRA SURFACE IMPOUNDMENTS
- B — ORIGINAL EFFLUENT POND
- C — FORMER SETTLING POND
- D — FORMER SETTLING POND
- E — FORMER SETTLING POND
- F — AREA OF UNTREATED SLUDGE DISPOSAL
- G — AREA OF CHEMFIXED SLUDGE DISPOSAL
- H — CHEMFIXED SLUDGE SPILL*
- I — DRAINAGE DITCH*
- J — WASTE WATER TREATMENT PLANT
- K — FORMER TANKS A AND B AREA
- L — FORMER TANK C AREA

* The spill and the ditch are not necessarily solid waste management units, but are areas to be investigated.

NOTE: SWMU locations are approximate.

STANLEY TOOLS
FOWLERVILLE, MICHIGAN

FIGURE 3
ADDITIONAL BORING, WELL AND GRAB SAMPLE LOCATIONS

JOB NO. 3163-035-121 DAMES & MOORE

PHOTOGRAPH #1

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1400
SUBJECT:	Looking east, site overview

PHOTOGRAPH #2

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1400
SUBJECT:	Looking east, site overview

PHOTOGRAPH #3

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1400
SUBJECT:	Looking northeast, site overview

PHOTOGRAPH #4

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1405
SUBJECT:	Looking east, Waste Treatment Building at Unit J

PHOTOGRAPH #5

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1407
SUBJECT:	Looking north along Red Cedar River (next to Unit F)

PHOTOGRAPH #6

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1407
SUBJECT:	Looking south along Red Cedar River (next to Unit F)

PHOTOGRAPH #7

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1430
SUBJECT:	Augering with 10¼" I.D. augers at background well location

PHOTOGRAPH #8

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1456
SUBJECT:	Roll-offs on site

PHOTOGRAPH #9

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1456
SUBJECT:	Roll-offs on site

PHOTOGRAPH #10

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1458
SUBJECT:	Area of chrome recovery under old plant floor

PHOTOGRAPH #11

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1500
SUBJECT:	Shallow well MW-K1, installed 1/10/94

PHOTOGRAPH #12

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1542
SUBJECT:	Drillers placing sand in shallow well MW-J4

PHOTOGRAPH #13

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/11/94
TIME:	1615
SUBJECT:	Driving split-spoon at intermediate well MW-Background (18-20' interval)

PHOTOGRAPH #14

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	0847
SUBJECT:	Advancing augers at MW-C3 (shallow well)

PHOTOGRAPH #15

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	0914
SUBJECT:	Rig at MW-Background

PHOTOGRAPH #16

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1012
SUBJECT:	Catching ground water as grout is being tremied into MW-Background

PHOTOGRAPH #17

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1130
SUBJECT:	Lowering casing at MW-Background

PHOTOGRAPH #18

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1130
SUBJECT:	Setting casing at MW-Background

PHOTOGRAPH #19

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1155
SUBJECT:	Driving casing at MW-Background

PHOTOGRAPH #20

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1300
SUBJECT:	Decon pad and equipment staging area

PHOTOGRAPH #21

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1320
SUBJECT:	Setting shallow well MW-E3

PHOTOGRAPH #22

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1336
SUBJECT:	Looking north, overview of Unit G

PHOTOGRAPH #23

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1340
SUBJECT:	Location of offsite well MW-OS1

PHOTOGRAPH #24

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1527
SUBJECT:	Rig setting up on grid boring location GB-64

PHOTOGRAPH #25

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1615
SUBJECT:	Decon

PHOTOGRAPH #26

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/12/94
TIME:	1615
SUBJECT:	Decon

PHOTOGRAPH #27

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0846
SUBJECT:	Drilling MW-Background - shallow well

PHOTOGRAPH #28

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0919
SUBJECT:	Rig on shallow well MW-B4

PHOTOGRAPH #29

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0919
SUBJECT:	Shallow well: MW-B4

PHOTOGRAPH #30

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0919
SUBJECT:	Rig on shallow well: MW-B4

PHOTOGRAPH #31

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0935
SUBJECT:	Off site well MW-OF3, close to railroad tracks

PHOTOGRAPH #32

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0935
SUBJECT:	Off site well MW-OS3, near railroad tracks

PHOTOGRAPH #33

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0935
SUBJECT:	Off site well MW-OS1, across from Unit F

PHOTOGRAPH #34

LOCATION:	Stanley Tools, Fowlerville, MI
DATE:	1/13/94
TIME:	0942
SUBJECT:	Off site well MW-OS2

D23

Metcalf & Eddy
An Air & Water Technologies Company

January 17, 1994

Mr. Michael Valentino
United States Environmental Protection Agency
Region V
Mail Stop HRE-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Work Assignment R05011
Stanley Tools Field Oversight
January 11-13, 1994

Dear Mr. Valentino:

Metcalf & Eddy, Inc. (M&E) performed the field oversight at the former Stanley Tools facility in Fowlerville, MI on January 11 through 13, 1994. The field oversight was conducted by Todd Aebie of M&E.

The Phase II work was performed at the facility by Dames and Moore personnel along with Stearns Drilling who are installing the monitoring wells and drilling the soil borings. A daily accounting of the personnel present onsite is listed in the field notes. A copy of the field notes are provided with this letter.

The main activities conducted for the week were the installation of the surface casings for the intermediate wells, setting of the shallow monitoring wells, and starting of the grid sampling. All of the shallow wells, which were proposed, have been installed except for the wells west of the Red Cedar River. All of the field activities completed to date conform with the project workplan wit the exception of a change in surface casing size from 12 inch to 10 inch casing to allow an easier installation into the borehole. This change is of no consequence.

If you have any questions, please call me at (614) 890-5501.

Sincerely,

Todd J. Aebie

Todd J. Aebie

cc:
File
C. Bowers

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
614-890-5501 FAX 614-890-7421

AWT

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Stanley Tools

January 11, 1994

1230 Arrive on site
- D&M off to lunch
T.A to hotel to check in

1300 All personnel on site
- Stearns Drilling doing the drilling (4 persons)

Dames + Moore personnel:
Dave Click
Christine ~~Oakot~~ T/A Ohel. } D&M
Bill Eekhoff
Todd Aelie - M&E

Todd J Aelie 1/11/94

1315 Dave informed T.A. that all surface water and sediment samples were collected and sent off to Ensco Labs.

- Will start to drill all wells 1st then soil borings

1340 Begin to drill MW-J4
depth to 6'
- No Water
- water ≈ 8'
- hydrocarbon odor
- silty clay 0-6' (13ppm)
- sand from 6-8' - wet
- mostly sand

Todd J. Aubrie 1/11/94

1400 ▲ Site overview (3 photos)

1405 ▲ - Waste Treatment build Near Unit J

1407 ▲ photos (2) down & up ~~up & down~~ Red Cedar River off of unit F
- Near well Location MW-F5

1430 ▲ photo drilling with 10¼" I.D. Augers
- Intermediate well at background Location

1450 Water at bkgrd well hit at 8'

Todd J. Aubrie 1/11/94

④

will wait until water stabilizes in the augers

→ above soils - silty clays, little sands
- Sand lense at 8'

1456 ▲ 2 photos - rolloffs near entrance to facility

1457 ▲ Area of Chrome plating under old facility floor

1500 ▲ Well MW-K1 installed 4/10/94

Todd J. Albi 4/11/94

⑤

1520 Well J-4
- will sample 10-12'
- set well 12-2'
- screen across w.t.
- water table 4'3.5" bg

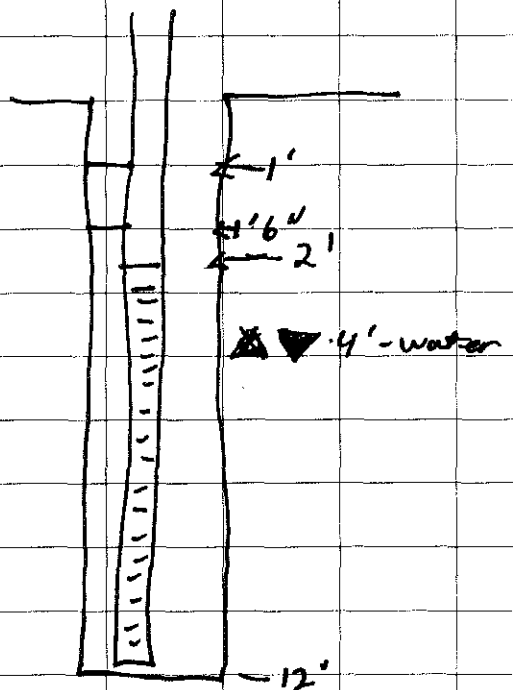
530 Sand to 12' - little clay at 12'
- TPH HNu readings 1-2 ppm
- will set screen 12-2'
sand to 1'6"
bentonite 1'6" - 1'
concrete to surface

- well material was decanned on site
- wells are stainless steel

Todd J Albi 4/11/94

⑥

Well J-4



*use No 5 Global Sand ≈ 6 bags

Todd Aebi 1/11/94

⑦

1542 ▲ Sanding well J-4

1615 Finish setting well J-4

▲ photo MW-BK - Driving sspoon 18-20'

1630 → hit Clay/Till at 20.5'
- Lot of sand / sandy clay - well sorted - med grained

1615 Begin to drill MW-C3
- shallow well high Kerosene/fuel oil odor

Todd Aebi 1/11/94

8-10' spoon on well C3 - water encountered and oily sheen brought up in spoon - some HNu hit.
- Sand looks very black, oily

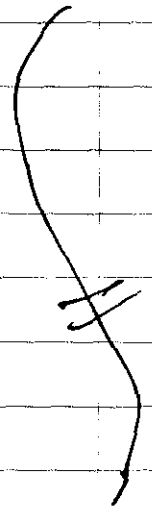
- The spoon below 10-12' - had a distinct oder, but did not have the oily sheen present

1615 at well MW-6C, auger TO 22' in preparation of setting casing 2.6'
Todd Dalki 4/11/94

into the clay layer TO act as a casing

- Drillers will set casing tomorrow - 4/12/94

1700 All personnel leaving site for day



Todd Dalki 4/11/94

(10)

Daily Activities Summary

1) Set well J-4

2) Begin well MW-C3

3) Begin to drill MW-BCK
The intermediate depth
well

4) Will Set Casing in
MW-BCK Tomorrow
4/12/94

Todd Aebi 4/11/94

(11)

January 12, 1994

Stanley Tools

0800 M&E and Dames & Moore (D&M)
arrive on site

Personnel on site:
T. Aebie - M&E
Christine Obel - D&M Obel
Bill Eckhoff - D&M
Dave Click - D&M

0805 Stearns Drilling arrives
on site, begins to
warm up equipment

Todd Aebi 4/12/94

(12)

0815 W.L at 5.2', well will be set from 13-3'
- W.L. well was left sit overnite.

0825 D&M calibrating HNu's and other equipment

→ Weather - Foggy, cold 15°F, high of 32 expected
- overcast

0830 Planned activities
- set surface casing at MW-BK
- Set well MW-C3-TJA
- set latter surface

Todd Aebi 4/12/94

(13)

Casing and shallow well at a location to be determined today

0830 ± Visitors expected Today are:
Jeaffer
and Bill Guerra - Stanley Tools
- both are arriving on site later in the morning.

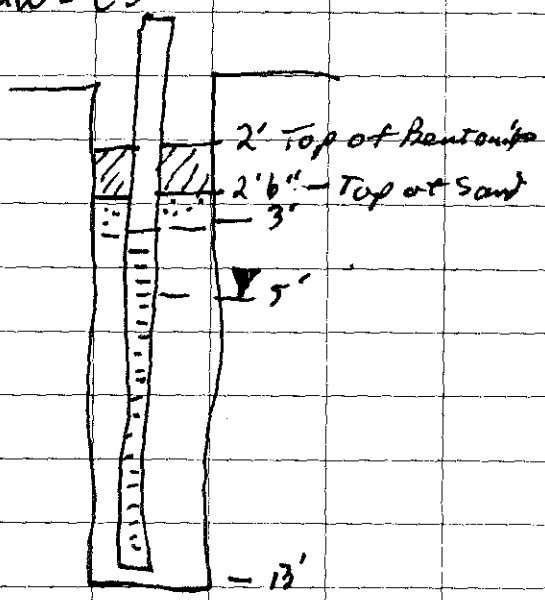
▲847 - photo of Location MW-C3-TJA - Advancing auger to 17'

Todd Aebi 4/12/94

(14)

0850 All drums being labeled with unique Number + well location

MW-C3



Todd J. Aebi 1/12/94

(15)

0900 Begin to sand MW-C3

0905 D&M using HNu Drager for Vynil Chloride - Hydrogen Sulfide

0910 Sand is being placed as augers are slowly Lifted up

0910 At well MW-BCK - Augers advanced to 22' - will pull augers and begin to set Surface casing

Todd J. Aebi 1/12/94

0914 ▲ photo of Rig at MW-BCK

0930 Jennifer Krueger and Dave Click arrive on site.

- Issue raised as to 4:1 mix of cement/bentonite grout: Drillers state that at that high ratio - cement may not properly adhere to casing and formation: They would like to go with a lesser ratio: Danes + Moore (Bill + Dave) Todd Aebi 4/12/94

agree that it is probably too high. T. Aebi states that a 5-10% ratio will work and is agreeable. Drops ratio from 12% to 5-10%

945 Drillers steam cleaning surface casing Casing length 21.8' steel

956 Casing is plugged with a wooden plug - Redoak 3-4" Thick

1000 begin to mix grout Todd Aebi 4/12/94

(18)

1010 Bill Geurea ~ arrive on site

1012 Begin to grout in well
- photo catching drilling water
≈ 7% Cement / Bentonite mix

1015 Set up on MW-E3

1040 Cought 75 gal of well water
- pumped in ≈ 125 gal of grout

Todd J Calvi 1/12/84

(19)

1055 Well MW-E3
- water encountered ≈ 8 ft.
- Some oil smell & staining
- HNu readings

1100 pulling 10¼" augers at MW-BCK

1115 Begin to set casing

1130 Drillers have to pound casing remains 18" into the clay

Todd J Calvi 1/12/84

▲ 1155 Driller's pounding in casing at MW-BC 15

1230 – pounding continues Dames + Moore decided to switch to either 10" or 8" casing, which ever the drill company can get here sooner. This will allow for easier casing placement into the hole.

1300 well MW-E3, water level is 6.25'.

▲ Photo of decon pad and

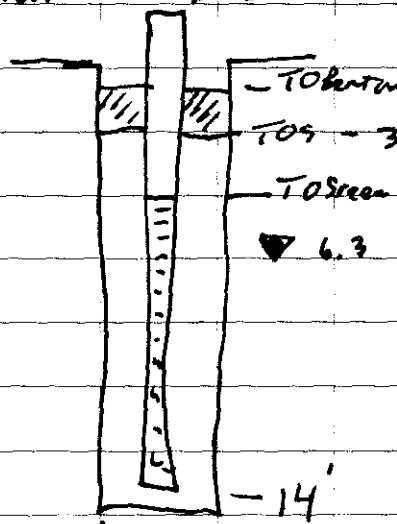
Todd Aebi 4/12/94

equipment staging area

1315 ▲ Photo MW-E3

1320 ▲ Photo MW-E3 – New Roll of Film

well MW-E-3



Todd Aebi 4/12/94

(22)

Decon of 9 Spoons
Alconox + water, Tap
water rinse,
- All Tooling is Steam
cleaned between holes

1336 ▲ Overview of Unit G

1340 ▲ Orange flag in tree, offsite
well location - across from
unit F

1350 Begin TO sand well
MW-E3

1411 Well E-3 is set

Todd J Aebi 4/12/94

(23)

1440 Rig started TO do GB-68

1500 Finish GB-68

1505 Rig cleaning up at
MW-BCK

For GB samples
VOC - 1-4oz
SVOC
TPH
Metals
Cyanide
PCB
} 1-16oz glass jar

1527 Rig setting up on
GB-64

Todd J Aebi 4/12/94

(24)

1527 ▲ photo - Rig setting up on GB-64
- will drill to 6'
- Continuous spoon

1549 Sample collected from 1-2' interval
- highest HNu reading on spoon.

1550 Drillers on other rig go to decon pad

1611 Both sets of drillers begin to decon equipment.

Todd J Aebi 4/12/94

(25)

1615 ▲ 2 photos of decon

1620 Drums from MW-Bek are being moved to a staging area next to the roll-off boxes which are onsite.

1630 Drillers doing maintance on the rigs
- Continue to decon

1645 T.A leaves site for the day

Todd J Aebi 4/12/94

(26)

Daily Activities Summary

1) Set surface casing at MW-B6k

2) Finish setting well MW-C3

3) Set well MW-E3

4) Do grid sampling at Locations GB-65 and GB-64. Samples sent off site for analysis

5) Decon all equipment

Todd Aebi 1/12/94

(27)

January 13, 1994
Stanley Tools

0750 M&E arrive on site

Weather: overcast 25°F, high 30°F expected, chance of snow

Planned activities:

1) Set well at MW-B6k, shallow well

2) Do GB grid sampling

3) Set surface casing at MW-B4

Todd Aebi 1/13/94

(28)

0800 Stearns Drilling on site warming up equipment, moving equipment to well locations

Personnel on site:

Christina Ohel > DAM
Bill Eckhoff
Todd Aebie - M&E
John
Rich
Randy
Ray

Stearns Drilling - same drill crew all week long

- Stearns drilling will have the 10" casing

Todd J. Aebi 1/13/94

(29)

on site by mid morning Today. This will replace The 12" casing which is Too Large To go into The auger borehole.

0830 Begin to drill MW-B4 shallow - Begin to set up on MW-B3

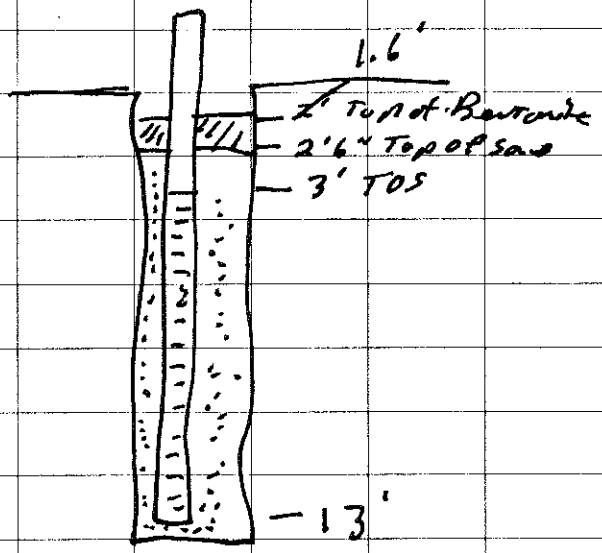
0840 Drillers are moving MW-B3 10' To The east due To The Location of The original stake was right under The overhead power lines

Todd J. Aebi 1/13/94

(30)

0846 ▲ photo of MW-Bck shallow

0854 — Water encounter at 8' at MW-Bck-shallow



MW-Bck shallow

Todd Aebi 1/13/94

(31)

919 ▲ 3 photos of Rig on MW-B-41

-moved 10' East due to overhead Lines, could not go 10' west due to fence, Trees, River bank.

935 ▲ 2 photos of offsite well location near RR Tracks

MW-053

Monitoring well off site 3

Todd Aebi 1/13/94

(32)

939 ▲ photo of MW-OS1 - earlier photo of same from across the creek, across from Unit F

0942 ▲ photo of MW-OS2 - in marsh area by Tracks

956 AT MW-B4 - encountered a 1½" diameter pipe about 1½' down, probably an old abandoned pipe, drillers lost Teeth on auger, have to replace Them

Todd J Aebis 1/13/94

(33)

1010 Finish setting MW-Bck1 - shallow well

1021 MW-B4 from 4-6' sspoon at 5', black sludge like material, PID ≈ 9 ppm - strong kerosene odor - Material is in a silty sand

1022 gravel encountered at 7½-8½'

Todd J Aebis 1/13/94

(34)

1027 SS spoon at MW-B4
9-11'
-heavy Kerosene / oil
smell + sheen,
W.L - 5.8'
PID = 24 ppm
- Mostly fine to med. Sand

1047 Rig drilling GB-39

1100 At GB-39
Sample will be collected
from 1-2' interval - No
elevated PID near
visibly contaminated zones

Todd J. Aebi 1/13/94

(35)

1111 At MW-B4
Till / Clay - sandy - dry
encountered at 18-18.5'

1125 Start GB-53
- 8th grid point to
date

1145 Sample from 3-4' sent
in for analysis

1200 Drillers + D+M go to lunch

1300 Return from lunch
- drillers decon-ing

Todd J. Aebi 1/13/94

(36)

1325 List of Grid Locations done to date

GB-47
GB-48
GB-60
GB-61
GB-68
GB-64
GB-39
GB-53
GB-56
GB-65 - MS & MSD

→ There will be QA/QC Samples Taken every 10 grid boring location MS & MSD Samples

Todd J Aebi 4/13/94

(37)

345 Drilling GB-56

1351 Sample from 3' zone, green coloration of the sandy soils

355 At well MW-B4 drillers are waiting on the plugs which will arrive between 1430 & 1500 - They will then set the casing

1400 Continuing to drill GB-56
- will take dup/MS/MSD on GB-65 Location

Todd J Aebi 4/13/94

(38)

Next

1410 Drillers waiting on plug for the casing to be set at MW-B4 - should arrive soon

1415 T. Abie off site for week

Todd Abrie 4/13/94

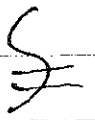
(39)

Daily Activities Summary

1) Set shallow well at MW-BCK - background location

2) began grid sampling again

3) Set up and drilled MW-B4 To Till/clay layer - will set casing once plug arrives.



Todd Abrie 4/13/94